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**Compliance with command hallucinations:
The role of the power of the voice, social rank and moral
disengagement**

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Overview

Volume 1 of this thesis consists of three parts.

Part 1 discusses and reviews the literature, since 1998, on psychological interventions for auditory hallucinations. Five therapeutic interventions are reviewed. These are: cognitive behavioural therapy, group therapy, mindfulness based interventions, acceptance and commitment therapy and hallucination focussed integrated treatment. Theories and models informing these interventions are outlined followed by a summary of the intervention. The literature on the efficacy of the intervention is then discussed. The methodological strengths and weaknesses of the studies are considered.

Part 2 of this thesis consists of the empirical paper. The study investigated compliance to harm-other command hallucinations. The study was informed by cognitive models of hallucinations, social rank theory and theories of moral disengagement. These are given consideration in the introduction. Four mediating variables were examined: the perceived power of the commanding voice, participants' perceived social rank in relation to the commanding voice, their perceived social rank in relation to others and moral disengagement. Thirty-two male participants who had experienced harm-other command hallucinations were recruited from forensic services. Semi-structured interviews and questionnaires were administered with participants. The findings of the study are outlined and discussed. The clinical implications and methodological weakness of the study are also considered.

Part 3 of this thesis is a critical reflection. Aspects of the research process are reflected upon. This paper includes sections on how ideas for the study were generated, challenges

in designing the methodology, participant recruitment difficulties and how these were overcome. Reflections on the difficulties recruiting participants who have experienced command hallucinations are also discussed and the methodological weaknesses of the empirical study are expanded upon.

Table of Contents

	Page no.
List of tables and figures	7
Acknowledgements	8
<u>Part 1: Literature Review. Psychological interventions for auditory hallucinations</u>	9
Abstract	10
1. Introduction	11
1.1. Aim of this literature review	12
1.2. Search strategies	13
2. Cognitive behavioural therapy (CBT)	14
2.1. Cognitive models of auditory hallucinations	14
2.2. Overview of CBT for auditory hallucinations	17
2.3. Review of CBT for auditory hallucinations	18
2.3.1. Meta-analyses and reviews	18
2.3.2. Randomised controlled trials (RCTs) of CBT that reported findings specifically on hallucinations	20
2.3.2.1. Methodology	23
2.3.3. RCTs of CBT on the positive symptoms of psychosis	24
2.3.3.1. Methodology	26
2.4. Summary and conclusions	26
3. Group therapy	27
3.1. Overview of group therapy for auditory hallucinations	27
3.2. Review of group CBT for auditory hallucinations	28
3.2.1. Non-randomised trials examining group CBT	28
3.2.1.1. Methodology	30
3.2.2. RCTs of group CBT	30
3.2.2.1. Methodology	31
3.2.3. Self-control skills group	32
3.3. Summary and conclusions	32
4. Mindfulness	33
4.1. Overview of mindfulness for psychosis	33
4.2. Review of mindfulness based interventions	36
4.3. Summary and conclusions	37
5. Acceptance and commitment therapy (ACT)	38
5.1. Overview of ACT	38
5.2. Review of ACT	38
5.2.1. Methodology	40
5.3. Summary and conclusions	40

6. Hallucination focussed integrative treatment (HIT)	41
6.1. Overview of HIT	41
6.2. Review of HIT	41
6.2.1. Naturalistic studies	42
6.2.2. RCTs of HIT	43
6.2.2.1. Methodology	43
6.3. Summary and conclusions	44
7. Discussion and recommendations for future research	44
8. References	48
<u>Part 2: Empirical paper. Compliance with command hallucinations: the role of the power of the voice, social rank and moral disengagement</u>	60
Abstract	61
Introduction	62
Method	71
Participants	71
Procedure	72
Measures	74
Ethical Approval	78
Power Analyses	78
Statistical Analyses	79
Results	79
Demographics	79
Auditory and command hallucination frequency	81
Compliance with Commands: group differences	83
Discussion	84
Methodological considerations	90
Clinical implications and suggestions for future research	92
Conclusions	93
References	95
<u>Part 3: Critical Reflection</u>	102
Introduction	103
Generating ideas and designing the research	103
Recruitment procedure	106
Response rate	108
Interviews	111
Risk	112
Methodological considerations	113
Overall reflections	114

References	115
<u>Appendices</u>	119

List of tables and figures

Tables	Page no.
Table I: Group means for age of first contact with mental health services and length of time since first contact /admission and interview	81
Table II: Frequency of voices and command hallucinations	82
Table III: Independent variables and variables controlled for; group means, standard deviations, Mann Whitney U tests and effect sizes.	83
 Figures	
Figure 1.1: A cognitive model of the positive symptoms of psychosis (Garety et al., 2001)	16
Figure 1.2: A model of relating mindfully to psychosis (Chadwick et al., 2005)	35
Figure 2.1: Mechanism through which moral self-sanctions are selectively disengaged from reprehensible conduct at points in the self-regulatory system (Bandura, 1986)	68
Figure 2.2: Flowchart of recruitment	73

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Part 1: Literature Review

Psychological interventions for auditory hallucinations

Abstract

Aim: The last review of psychological interventions for specifically auditory hallucinations was conducted in 1998. This review aimed to bring together the literature, since 1998, on interventions for auditory hallucinations. Five therapeutic interventions were reviewed. These are: cognitive behavioural therapy, group therapy, mindfulness based interventions, acceptance and commitment therapy and hallucination focussed integrated treatment.

Method: The PsychInfo database was searched using the following terms: Therapy and hallucination/voice; intervention and hallucination/voice; schizophrenia and therapy/intervention; psychosis and therapy/intervention. Psychological interventions that were found using the above terms were then searched individually. Further papers were identified through the reference lists of relevant papers.

Findings: The evidence base of psychological interventions for auditory hallucinations has developed significantly over the past ten years. It is more advanced for some interventions (i.e. cognitive behavioural therapy) in comparison to others (i.e. mindfulness based interventions). Research trials showed that all of the interventions were effective to some degree and on different aspects, for individuals with auditory hallucinations.

1. Introduction

Schizophrenia is a severe and enduring mental health problem and is the most common serious mental illness (Knapp, 2005). The World Health Organisation-10 country study found an incidence rate of between 0.1 and 0.4 per 1000 population (Jablensky et al., 1992, cited by Jablensky, 2000). The lifetime risk of schizophrenia in the general population is thought to be just below 1 percent (Picchoni & Murray, 2007). Symptoms of schizophrenia include hallucinations, delusions, thought disorder and negative symptoms (Picchoni & Murray, 2007). Hallucinations and delusions constitute the positive symptoms of schizophrenia.

Schizophrenia is included in one of the 30 major causes of disability worldwide (NICE guidelines, 2003). In the UK the direct care costs for schizophrenia has been estimated to be 2.76 percent of all NHS expenditure (Knapp, 2005). Only 20 percent of individuals who have a schizophrenic episode will not relapse in five years (Larsen, Johannssem & Opjordsmoen, 1998), hence a significant number of people will experience long-term disability (NICE guidelines, 2003). A UK survey found that two thirds of individuals with schizophrenia have difficulty in at least one area of daily functioning and over half are unable to work (Foster, Melzer, Gill & Hinds, 1996, cited by NICE guidelines, 2003). Approximately 10 percent of individuals with a diagnosis of schizophrenia will commit suicide (Campbell & Fahy, 2005).

Hallucinations have been described as perceptions that occur in the absence of stimulus and are distinct from thoughts (Ohayen, 2000). Auditory hallucinations are a principal symptom of schizophrenia and psychotic disorders (Birchwood et al., 2004). Individuals

in the general population also experience auditory hallucinations, particularly during periods of stress or sleep deprivation (Lakeman, 2001). Lifetime prevalence rates of auditory hallucinations in the general population have been estimated to be between 10 and 39 percent (Shergill, Murray & McGuire, 1998). Hallucinations can occur in any of our senses (e.g. vision, touch, smell) but auditory hallucinations are the most common (Lakeman, 2001). Auditory hallucinations are a principal symptom of schizophrenia and one of the major causes of distress to individuals with a diagnosis of schizophrenia (Wykes, 2004). A Cochrane review (Marshall & Rathbone, 2006) found that auditory hallucinations were the second most common positive symptom of schizophrenia with 74 percent of patients reporting them. There is a wide variation in the content of auditory hallucinations. Most often in individuals diagnosed with schizophrenia the voices are critical or abusive. They might comment on a person's actions, command them to do something, discuss the patient or speak directly to them (Picchoni & Murray, 2007).

In individuals with psychosis, auditory hallucinations are regularly treated with antipsychotic medications (Shergill et al., 1998). Auditory hallucinations have been found to be resistant to medication in approximately 25 to 50 percent of patients (Pantelis & Barnes, 1996). The treatment-resistant nature of auditory hallucinations has been a spur to the development of psychological interventions for voices.

1.1. Aim of this literature review

The evidence base of psychological interventions for hearing voices has advanced greatly over the past 15 years (Kuipers, 2005). It is an important area of research on account of the resulting distress, disability and cost to the individual and to society. The importance of this area is accentuated because of the treatment resistant nature of voices. This

literature review aims to bring together research from the last ten years on the efficacy of psychological interventions for auditory hallucinations. The last comprehensive review of psychological treatments for voices was in 1998 (Shergill et al., 1998).

Throughout this literature review the different interventions will be described separately. The models informing the intervention will be initially outlined followed by a summary of the intervention itself. The literature on the efficacy of the intervention will then be discussed and the methodological strengths and weaknesses of the studies will be considered.

1.2. Search strategies

The search strategy included the following database PsycInfo (from 1998 to January 2008). Search terms included: Therapy and hallucination/voice; intervention and hallucination/voice; schizophrenia and therapy/intervention; psychosis and therapy/intervention. The psychological therapies found in these papers were then searched and included cognitive behavioural therapy, group therapy, mindfulness, acceptance and commitment therapy and hallucination focussed integrated treatment. Further papers were identified through the reference lists of relevant papers.

Literature on other interventions used for schizophrenia was found mainly on coping strategies, family therapy and cognitive remediation therapy. A section on coping strategies was not included in this review as coping strategy interventions are rarely used as an intervention on their own, more as a part of the other interventions described. Family therapy and cognitive remediation therapy were not included in this review as no studies

were found that looked at the effectiveness of these interventions on specifically auditory hallucinations.

Different therapeutic trials were found and are included in this review. These ranged from meta-analyses and randomised controlled trials (RCTs) which have high internal validity (Petticrew & Gilbody, 2004) to less methodologically valid trials including cohort studies and case series. For interventions that have a well established evidence base (e.g. cognitive behavioural therapy) only studies deemed to have a high internal validity are reviewed (e.g. RCTs). Whereas for other interventions in which the evidence base is currently limited (e.g. mindfulness based interventions) studies which have lower internal validity (e.g. naturalistic studies) are reviewed.

2. Cognitive behavioural therapy (CBT)

2.1. Cognitive models of auditory hallucinations

Cognitive models of psychosis are informed by Beck's (1976) cognitive model of emotional difficulties (Chadwick & Birchwood, 1994). Beck's (1976) model proposes that it is the interpretation (cognition) of an event rather than the event itself which gives rise to emotions and also behavioural difficulties.

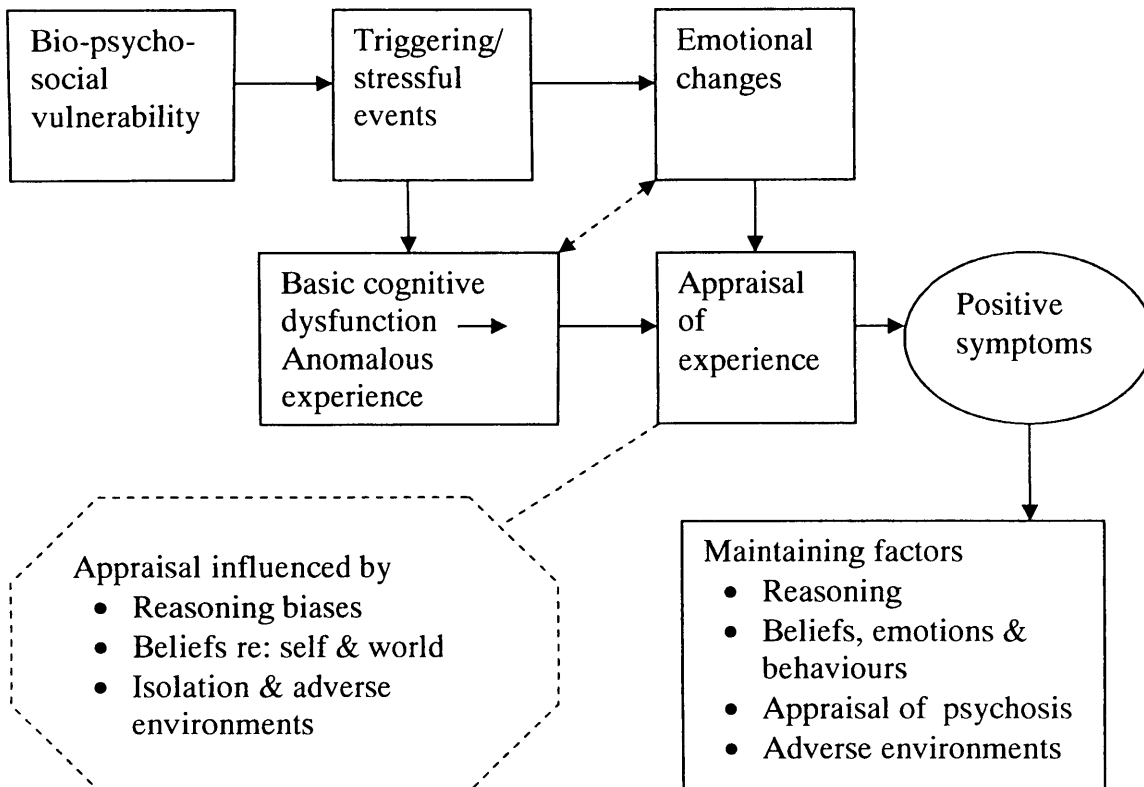
Chadwick and Birchwood (1994) developed one of the earlier cognitive theories of auditory hallucinations based on Beck's (1976) cognitive model of emotional difficulties. Their theory suggested that distress is not a consequence of hallucinations per se but occurs as a result of an attempt to make sense of hallucinations. They proposed that distress is mediated by an individual's beliefs about their voices, such as the power,

identity and purpose of the voice. Birchwood and Chadwick (1997) found that it was beliefs about voices, rather than the voice activity itself that led to distress, changes in affect and also influenced behavioural responses.

Garety, Kuipers, Fowler, Freeman and Bebbington (2001) developed a comprehensive cognitive model of the positive symptoms of psychosis which explains both delusions and hallucinations within the same framework (see figure 1.1). In Garety et al.'s (2001) model there are two possible routes that lead to the development of positive symptoms of psychosis. One route is through cognitive and affective processes and the other is through affective processes alone. The model proposes that individuals are more likely to experience hallucinations if they have a bio-psycho-social vulnerability to psychosis. A triggering event can, in a vulnerable individual, lead to a disruption of cognitive processes and emotional changes. These changes can lead to an anomalous conscious experience (e.g. an individuals' own thoughts being experienced as voices). Further emotional changes (e.g. depression) can occur as a consequence of the anomalous conscious experience.

The appraisal of the anomalous conscious experience can lead to it being experienced as a positive symptom (i.e. a hallucination). The appraisal can be influenced by several factors. These include reasoning biases (such as jumping to conclusions and an externalising attributional bias) and beliefs about the self and the world (such as the self is vulnerable to threat and the world is dangerous). Social isolation and adverse environments also influence an individual's appraisal and can lead to the anomalous experience being appraised as a hallucination, for example, social isolation reduces the opportunities for accessing other explanations.

Figure 1.1: A cognitive model of the positive symptoms of psychosis (Garety et al., 2001).



Garety et al. (2001) describe factors that maintain positive psychotic symptoms. These include reasoning processes (e.g. dichotomous thinking and low belief flexibility), emotional distress (e.g. depression) and safety behaviours which reduce the opportunity for disconfirmatory evidence (e.g. avoiding social interactions). Other factors involved in the maintenance of symptoms include an individuals' appraisal of their psychotic experiences (e.g. the stigma attached to psychosis might contribute to depression), adverse environments (e.g. social isolation), trauma and living with a family with high expressed emotion.

2.2. Overview of CBT for auditory hallucinations

The National Institute for Clinical Excellence guidelines recommend that individuals with a diagnosis of schizophrenia should be offered CBT for more than six months, meeting with a therapist for a minimum of ten sessions (NICE guidelines, 2003). CBT for psychosis was developed out of the cognitive models described above. It is based on the principle that it is the appraisal of the positive psychotic symptom (i.e. an hallucination) that gives rise to distress, changes in affect and coping behaviour rather than the symptom per se. CBT for psychosis has three main goals, firstly to reduce the distress and disability associated with symptomology, secondly, to reduce emotional disturbance and thirdly relapse prevention work (Fowler, Garety & Kuipers, 1995).

Compared to CBT for other mental health problems, CBT for psychosis takes a more flexible, individualised approach and stresses the importance of engagement and the therapeutic relationship (Evans-Jones, 2004). It has been suggested that individuals who experience psychosis are more difficult to engage (Morrison, 1998) and consequently the engagement period might be slow. CBT for psychosis has different interventions that can be used flexibly depending on the nature of an individual's symptoms (Rector, Seeman & Segal, 2003). Specific interventions should be driven by a cognitive formulation (Morrison, 2004). Specific interventions for auditory hallucinations include:

- Cognitive behavioural coping strategies (for example distraction, exercise, listening to music and relaxation; Fowler, Garety & Kuipers, 1998);
- Psychoeducation (Fowler et al., 1995);
- Problem solving (Kuipers, 2005);

- Normalizing experiences (Turkington, Kingdon & Weidon, 2006);
- Reviewing beliefs about the voices (Kingdon & Hansen, 2004);
- Exploring the truth of statements about the voices (Kingdon & Hansen, 2004);
- Developing alternative explanations of symptoms (Turkington et al., 2006);
- Challenging beliefs about voices (Turkington et al., 2006);
- Relapse Prevention (Birchwood, Spencer & McGovern, 2000).

2.3. Review of CBT for auditory hallucinations

2.3.1 Meta-analyses and reviews

There appears to be no meta-analyses completed on the effects of CBT on hallucinations alone. The literature search found three meta-analyses looking at the effectiveness of CBT for the positive symptoms of psychosis, which includes delusions alongside hallucinations. All three meta-analyses found beneficial effects, to varying degrees, of CBT on positive symptoms of psychosis.

Zimmerman, Favrod, Trieu and Pomini (2005) completed the most recent and methodologically rigorous meta-analysis examining the effects of CBT on the positive symptoms of schizophrenia. It analysed the most studies (fourteen RCTs), examined the effect of blindness, and eleven of the studies included had follow-up data. Zimmerman et al. (2005) included studies that (a) had a CBT group and a control group, (b) participants met the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV; American Psychological Association, 1994) criteria for schizophrenia, schizoaffective disorder or delusional disorder and (c) used a validated measure of positive symptoms. Zimmerman et al. (2005) completed between group

comparisons on measures of positive symptoms at post treatment, early follow-up (less than 12 months) and late follow-up. An effect size of CBT of 0.37 post treatment was found, which is in the small to moderate range (Cohen, 1992). At early follow up (3 to 12 months) the effect size was larger (0.4) and at late follow-up (over 12 months after the end of treatment) the effect size was in the small to moderate range (0.33). They also found more pronounced effects for patients with acute schizophrenia in comparison to those with chronic schizophrenia. Zimmerman et al. (2005) concluded that CBT has a positive effect on the positive symptoms of schizophrenia and that CBT has long-term effects. One important limitation of this meta-analysis is that they included unblinded and blinded trials. When Zimmerman et al. (2005) looked at only blinded trials the effect size reduced to 0.29, which falls in the small to moderate range. Another limitation of this meta-analysis is that several of the studies examined included a non-specific treatment (e.g. supportive counselling, befriending) on top of TAU.

Two further effect-size analyses (Rector & Beck, 2001; Gould, Mueser, Bolton, Mays & Goff, 2001) have examined the effects of CBT on the positive symptoms of psychosis. Both analyses included seven studies, they included blind and non-blind trials and looked at pre-test post-test change. Rector and Beck (2001) included only RCTs while Gould et al. (2001) included non-randomised controlled trials alongside RCTs. Both effect size analyses found encouraging results for CBT for the positive symptoms of psychosis, which were maintained at follow-up. Gould et al. (2001) found a large effect size (0.65) at post-treatment and follow-up (0.93). Rector and Beck (2001) also found a large effect size when they compared CBT to routine care (RC) at post treatment (1.31) and at follow-up (1.48). Interestingly Rector and Beck (2001) also compared RC to supportive therapy. They found that a moderate to large

effect size post-treatment (0.63) and at follow-up (0.64) for supportive therapy. The effect sizes for supportive therapy were significantly smaller than those for CBT suggesting that the effects of CBT are superior to those offered by other supportive therapies.

A status report (Norman & Townsend, 1999) reviewed evidence from seven controlled trials to examine the efficacy of CBT for hallucinations and delusions. They concluded that CBT, in some circumstances, can be effective in reducing the frequency and severity of hallucinations. They could not make conclusions on the possible mediators of CBT for psychosis as they found the evidence for mediators too inconsistent.

Despite some methodological weaknesses of these meta-analyses they all suggested that CBT was beneficial for people experiencing positive symptoms (including hallucinations) of psychosis and that these improvements were maintained.

2.3.2. RCTs that reported findings specifically on hallucinations

Five RCTs that examined the effectiveness of CBT and reported auditory hallucination specific data were found. All of these trials reported that CBT had a significant effect on some aspect of hallucinations to varying degrees. One of these studies (Kuipers et al., 1998) was a follow-up of a previous RCT.

Two of these RCTs (Cather et al., 2005; Lewis et al., 2002) reported global auditory hallucination scale measures and did not breakdown the effect of CBT on specific aspects of auditory hallucinations. Both studies found that participants in the CBT

group improved but that these improvements were not always significantly different to participants in the control group. Cather et al. (2005) found benefits of functional CBT (functional CBT only targets symptoms that interfere with an individual progressing towards a functional goal) in 30 outpatients in comparison to psychoeducation. Participants in the CBT group significantly improved on a measure of auditory hallucinations from pre-therapy to post-therapy and this was not the case for participants who received psychoeducation. However, the difference between CBT and psychoeducation on the measure of auditory hallucinations was not significant. Lewis et al. (2002) compared a 5 week CBT programme to supportive counselling (SC) and to RC with 315 patients in their first or second episode of acute psychosis. At 6 weeks post-baseline they found that on a measure of auditory hallucinations participants in the CBT group improved more than both SC and RC. This difference met significance when CBT was compared to SC but not when compared to RC.

Three further RCTs (Kuipers et al., 1998; Trower et al., 2004; Valmaggia, Van der Gaag, Tarrier, Pijnenborg & Sloof, 2005) have examined the effects of CBT on auditory hallucinations in more detail. They have looked at aspects of hallucinations such as frequency, loudness, content and power of the voices. They all found that CBT was beneficial on some aspects of hallucinations. The only common theme between the findings was that all three RCTs found CBT significantly reduced the frequency of auditory hallucinations post-treatment.

Valmaggia et al. (2005) completed a RCT investigating the effects of manualised CBT in comparison to SC, with 58 inpatients diagnosed with treatment-resistant schizophrenia. Measures were taken at baseline, post-treatment and 6 months after treatment had ended. Valmaggia et al. (2005) found that at post treatment CBT was

more effective than SC at reducing the physical characteristics of hallucinations (e.g. frequency, loudness and duration). They also found that CBT reduced the interference of hallucinations on the participants' life, improved feelings of control around hallucinations and shifted their beliefs about the origin of the hallucinations. Valmaggia et al. (2005) found no significant difference between the groups on an emotional characteristics factor which measured the amount and intensity of distress. None of the significant changes were maintained at the 6 month follow-up.

Trower et al. (2004) compared cognitive therapy to treatment as usual (TAU) with 38 patients with command hallucinations in a RCT. They followed up patients at six and twelve months. At 6 months after treatment had started Trower et al. (2004) found that patients in the cognitive therapy groups' compliance with their command hallucinations significantly reduced as did their beliefs about the power, omniscience and control of the voice in comparison to those who received TAU. They also found that cognitive therapy significantly reduced the frequency and intensity of hallucinations and distress associated with the hallucinations. Delusional beliefs and depression did not significantly reduce in comparison to patients who received TAU alone. At the 12 month follow-up only distress associated with hallucinations and frequency were no longer significant.

Kuipers et al. (1998) followed up 47 participants of an earlier RCT which had examined CBT in comparison to TAU for patients with treatment-resistant psychosis. At the eighteen month follow-up Kuipers et al. (1998) found that participants in the CBT group reported that the frequency of their hallucinations had significantly reduced, this was not the case with participants who had received TAU alone. The intensity of hallucinations and distress associated with hallucinations was non-

significant but in the direction of supporting CBT. Patients who received CBT also showed significant improvements from baseline on measures of generally psychiatric symptomology.

All five RCTs with hallucination specific information showed some advantages of CBT over TAU or other therapies. The evidence is inconsistent with regards to which aspects of hallucinations CBT improves and to whether these improvements are maintained. The RCTs that reported hallucination-specific information all found that CBT significantly reduced the frequency of hallucinations, only one of these found that this change was maintained at follow-up.

2.3.2.1. Methodology

DSM-IV or International Classification of Diseases (ICD-10; World Health Organisation, 1993) diagnoses for schizophrenia or related disorders were used as inclusion criteria for four (out of five) of the above RCTs. The fifth RCT (Kuipers et al., 1998) included patients who had experienced one distressing symptom of psychosis. Three of the trials did not report whether they examined the treatment and control group for group differences at baseline. Cather et al. (2005) reported that they found no group differences at baseline and Valmaggia et al. (2005) found that patients in the control group were significantly higher on a measure of emotional characteristics of hallucinations. All five RCTs used a manual or protocol for CBT. Four of these RCTs found adherence to the treatment protocol to be acceptable by independent raters who used the Cognitive Therapy Scale (CTS; Haddock et al., 2001). Cather et al. (2005) used weekly supervision groups to ensure that therapists were sticking to the protocol. The attrition rates of the RCTs were acceptable, these varied

from 13 percent (Cather et al., 2005) to 27 percent (Trower et al., 2004). Four of the described RCTs used blind raters, one of the RCTs (Kuipers et al., 1998) did not use blind assessors as they felt this was not feasible because of in-depth assessments. All five RCTs used validated outcome measures.

2.3.3. RCTs that reported findings on positive symptoms

Five further RCTs examined the efficacy of CBT for schizophrenia and reported changes in positive symptoms. The positive symptoms of psychosis are made up of hallucinations and delusions. Only one of these RCTs (Rector et al., 2003) found no positive benefits of CBT in comparison to the control group.

Startup, Jackson and Bendix (2004) assessed the effects of CBT compared to TAU at 6 and 12 months after treatment with ninety in-patients in an acute psychotic episode. They found that patients who received CBT improved on a measure of hallucinations and delusions at 6 months and that this was maintained at a 12 month follow-up. Drury, Birchwood and Cochrane (2000) compared CBT to a recreational activities and support group with thirty-four in-patients in an acute psychotic episode. They also found that the beneficial effects of CBT on positive symptoms were maintained at a 5 year follow-up. Tarrier et al. (1998) found beneficial effects of CBT on the reduction in number and severity of positive symptoms with seventy-two patients in comparison to supportive counselling and RC. They found that patients in the CBT group were eight times more likely to have a 50 percent or more reduction in positive psychotic symptoms compared to those who received RC. However, unlike the two previously described RCTs, Tarrier et al. (1999) found that at one year after treatment there were no significant differences in the improvement of positive symptoms between patients

who received CBT and those who received supportive counselling. Nonetheless, the benefits of CBT in comparison to RC were still maintained at 1 year. Sensky et al. (2000) found that the benefits of CBT were not apparent until 9 months after treatment. Sensky et al. (2000) compared CBT to a befriending intervention, both of which were delivered by experienced nurses. Post-treatment both interventions had significantly reduced the number of positive symptoms but there were no between-group differences. At 9 months post-treatment participants in the CBT group experienced significantly greater improvements than those in the befriending group on a measure of hallucinations and delusions.

Rector et al. (2003) did not find such beneficial effects of CBT. They completed a RCT with forty-two out-patients to assess whether individuals improve more with CBT plus enriched treatment-as-usual (ETAU) compared with those who received ETAU alone. Results showed that there were no significant differences between the CBT plus ETAU group compared to ETAU alone group on the reduction of positive symptoms, which included hallucinations. Normally TAU is not usually to such intensity that it was in this study and this might have contributed to the non-significant difference between the two groups on the reduction of positive symptoms.

The evidence from these RCTs suggest that CBT can be beneficial in reducing the positive symptoms of psychosis and/or distress related to such symptoms. A tentative conclusion can be made that the advantages of CBT are maintained, but the evidence for this is not as strong as there are inconsistencies within the findings.

2.3.3.1. Methodology

All participants in these RCTs had to meet DSM-III, DSM-IV or ICD-10 diagnosis for schizophrenia or schizophrenic spectrum disorders to be included in the trial. No information was provided about the similarity of the groups after assignment in one study (Drury et al., 2000). The groups were similar after assignment with respect to symptoms in the other four RCTs but differed on other aspects including gender (Rector et al., 2003; Sensky et al., 2000) and global functioning (Startup et al., 2004). Four of the RCTs had manuals for therapy, one of the RCTs (Rector et al., 2004) did not use manualised therapy but developed modules that could be applied flexibly. Four of the RCTs measured adherence to CBT by the use of therapy adherence rating scales. Therapy fidelity was not reported clearly in one study (Drury et al., 2000). Only one of these RCTs did not use blind raters (Drury et al., 2000). All of the trials used validated outcome measures.

2.4. Summary and conclusions

The evidence from meta-analyses and RCTs present strong evidence that CBT is a beneficial therapy for auditory hallucinations and the positive symptoms of psychosis. These trials provide evidence that CBT results in more improvements compared to RC and SC. Only one trial found no significant benefits of CBT (Rector et al., 2003). The majority of the evidence comes from RCTs and meta-analyses which have strong internal validity. The majority of these studies indicate that some improvements are maintained at follow-up but the evidence for this is slightly more inconsistent

Despite several methodologically strong trials it is difficult to conclude the specific effects of CBT on auditory hallucinations, for example on control, power, and content. Tentatively the evidence suggests that CBT can reduce the frequency of hallucinations but whether this change is maintained long-term is inconclusive.

3. Group therapy

3.1. Overview of group therapy for auditory hallucinations

Most of the literature on group interventions for hallucinations since 1998 has been on group CBT, with some literature on coping skills groups. As individual CBT for psychosis developed a stronger evidence base researchers began to consider more cost efficient and time efficient ways of delivering CBT, such as in a group setting (Pinkham, Gloege, Flanagan & Penn, 2004). Group CBT can be a useful alternative to individual CBT as it makes psychological therapies more available to more patients at a lower cost than individual therapy (Wykes, Parr & Landau, 1999), thus increasing access to CBT for patients with psychosis.

Wykes (2004) highlighted some advantages and disadvantages of group CBT for psychosis. The sharing of coping skills in a group might help increase the range of coping skills an individual has available to them. Groups can also be beneficial in facilitating the testing out of explanations and the restructuring of beliefs. They can also provide social support (Wykes, 2004) and have the advantage of normalising and reducing the stigma associated with symptoms (Newton et al., 2005). Disadvantages that Wykes (2004) discussed included the difficulties that an individual might have in

sharing their beliefs within a group setting and discrepancies between the rates that group members change.

Wykes et al. (1999) developed a manual for a 6 session group CBT for auditory hallucinations. Other CBT group researchers have followed a similar outline to Wykes et al. (1999). Session outlines included the sharing of information about voices, models of psychosis and of hallucinations, effective coping strategies, improving self-esteem and an overall model of coping with voices. There was a follow-up session 12 weeks after the group ended. Other groups have expanded on this manual to include sessions on stigma, behavioural analysis of the voices, establishing control over the voices (Pinkham et al., 2004) and negative thinking patterns (Barrowclough et al., 2006).

3.2 Review of group CBT for auditory hallucinations

3.2.1 Non-randomised trials examining group CBT

Four non-randomised studies have explored the effectiveness of group CBT on hallucinations. The four studies all found beneficial effects of group CBT for auditory hallucinations.

Newton et al. (2005) used a waiting list control group to explore the effectiveness of a CBT group for voices with 22 in-patients with early onset psychosis. Newton et al. (2005) found that patients who attended the CBT groups had a significant reduction in the severity of their auditory hallucinations. When looking at certain aspects of hallucinations they found that participants who attended the group reported a

reduction in the perceived control and power of the voices. They also found that the reduction in the perceived control of the voices was significantly associated with a reduction in distress. These changes were maintained at a 24 week follow-up. Participants on the waiting list did not report any significant changes. Similarly Wykes et al. (1999) found that group CBT significantly reduced the severity of auditory hallucinations and reduced the perceived power of the voices which was associated with a reduction in distress. These changes were maintained at follow-up. Again supporting the effectiveness of group CBT Chadwick, Sambrooke, Rasch and Davies (2000) found that participants who attended a CBT group reported significant reductions in the perceived power and control of the voices. They found no significant changes in affect or voice topography (e.g. frequency, volume and clarity). One further study (Pinkham et al., 2004) examining the efficacy of group CBT found the participants who attended the group reported a reduction in the severity of their hallucinations, this approached significance. Pinkham et al. (2004) found that participants' beliefs about their voices significantly improved from pre-therapy. They also looked at the effects of duration of treatment, comparing a seven-session group with a twenty-session group. They found no significant differences between the two groups suggesting that the extra sessions were not beneficial in reducing distress and symptomology.

These non-randomised trials indicate that group CBT can be helpful in changing participants' beliefs about their voices, such as the perceived control and power of the voice and that these changes might be maintained.

3.2.1.1. Methodology

The studies described above all clearly described their intervention, which were manualised. Two of the studies (Newton et al, 2005; Wykes et al., 1999) used the manual for group CBT developed by Wykes et al. (1999). None of the studies measured adherence to treatment. This appears to be more difficult with group studies as two of the papers reported that group members declined the sessions being audio-taped. All of the above studies used validated measures. Attrition rates were acceptable ranging from 8 percent (Pinkham et al., 2004) to 18 percent (Wykes et al., 1999). However, the obvious weakness of these studies is that participants were not randomly assigned in a blind RCT.

3.2.2. RCTs of group CBT

Two RCTs (Barrowclough et al., 2006; Wykes et al., 2005) have compared group CBT to TAU. Unfortunately, neither study found any consistent evidence that group CBT was effective at reducing positive symptoms, at post treatment or at follow-up. Wykes et al. (2005) randomly allocated eighty-five outpatients to a seven session group CBT or TAU. Participants were assessed for the severity of hallucinations at baseline, week 10 (post-therapy) and week 36 (follow-up) by a self-report measure. Wykes et al. (2005) found no effect of group type (CBT versus TAU) over time on the severity of hallucinations indicating that group CBT was no more effective at reducing the severity of hallucinations than TAU. Wykes et al. (2005) found a significant cluster effect of therapy, in that the severity of hallucinations significantly reduced in some sub-groups but not others. Through further analysis of the differences between the groups Wykes et al. (2005) concluded that patients having therapy earlier on in the

trial and with more experienced CBT therapists had better outcomes. Barrowclough et al. (2006) compared an eighteen session group CBT to TAU with 113 patients. They found no difference on a measure of positive symptoms post treatment and at a 12 month follow-up, suggesting that group CBT had no impact on the severity of auditory hallucinations. In sum these two RCTs suggest that group CBT is not efficacious for auditory hallucinations. However, experienced therapists may increase the efficacy of group CBT somewhat.

3.2.2.1 Methodology

Both of these trials (i.e. Barrowclough et al., 2006; Wykes et al., 2005) had a diagnosis of schizophrenia or schizoaffective disorder as inclusion criteria. Randomisation was completed by an individual who was independent of the research team. In both trials the treatment and control group were similar in terms of demographics and symptoms at baseline. Both of the trials used a manual for the group therapy. Adherence to the manual was reliable as measured by a checklist in the trial by Barrowclough et al. (2006). It was unclear whether fidelity to treatment was measured in the trial by Wykes et al. (2005). The attrition rates were acceptable in both trials (Barrowclough et al., 2006: 28 percent; Wykes et al., 2005: 17.6 percent). Both trials used validated outcome measure. Raters were blind to participants groups in the trial by Barrowclough et al. (2006) but not in the trial by Wykes et al. (2005) which also used some self-report measures.

3.2.3. Self-control skills group

Perlman and Hubbard (2000) developed a self-control skills group for auditory hallucinations and explored nine patients' experiences of this group. Initial sessions focused on psychoeducation. The rest of the sessions focused on skills training which included positive self-talk, thought stopping (either the patient themselves said stop or they heard it through headphones) and simple distracters, which included humming, watching television or listening to music. Two participants found these techniques difficult to use and reported no benefit from the group. One member reported that they no longer heard hallucinations, the other six reported that they were less distracted and less distressed by their hallucinations. Different group members found different techniques helpful and no individual technique appeared to be beneficial for every group member.

3.3. Summary and conclusions

Overall the evidence for group CBT is inconsistent. The findings of less methodologically valid trials indicate that group CBT is effective in challenging beliefs about voices, such as the power and control of voices. The evidence from these studies suggests that the changes in an individual's beliefs about their voices might reduce the distress caused by auditory hallucinations. All the non-randomised trials reported that these improvements were maintained at follow-up. The more methodologically valid RCTs did not find evidence supporting the efficacy of group CBT for people experiencing auditory hallucinations. As the RCTs found no evidence for the efficacy of group CBT it must be concluded that it is not an effective therapy on the positive symptoms of psychosis, including hallucinations. One RCT (Wykes et

al., 2005) found that groups led by more experienced therapists had better outcomes. Consequently therapists' level of experience is an important variable to measure and might influence outcome.

4. Mindfulness

4.1. Overview of mindfulness for psychosis

Mindfulness originated from Buddhism (Abba, Chadwick & Stevenson, 2008) and has been applied as a psychological intervention (Teasdale et al., 2000). Mindfulness involves purposely paying attention to and maintaining attention to the current experience, such as hearing voices or negative affect. In mindfulness attention to the current experience should be non-judgemental, the experience should simply be noticed (Allen et al., 2006). In mindfulness practice there is a certain quality of awareness which involves openness and curiosity (Allen et al., 2006). Once mindfulness is achieved the individual can recognise and accept things as they are (Allen et al., 2006). This state of mind can lead to less avoidance and an increase in acceptance.

Mindfulness groups have been found to be effective in reducing distress in a number of psychiatric disorders. Mindfulness Based Stress Reduction (MBSR) was developed by Segal, Williams & Teasdale (2002, cited by Abba et al., 2008), it is a structured group therapy for a wide range of difficulties, for example pain and anxiety (Chadwick, Newman-Taylor & Abba, 2005). This led to the development of Mindfulness Based Cognitive Therapy (MBCT; Teasdale et al., 2000). MBCT includes practising focussing attention on the present and on breathing if attention is

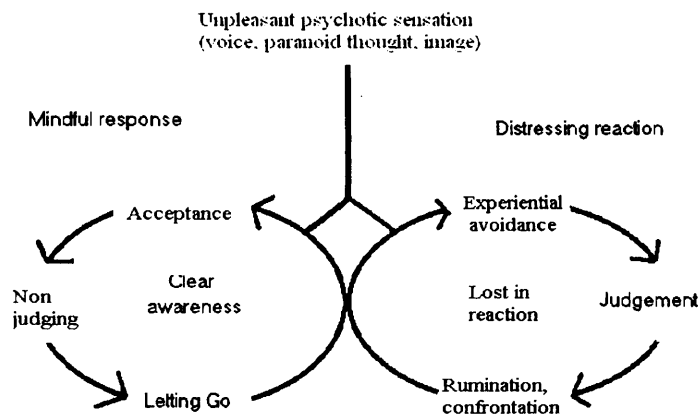
diverted to worries or thoughts. Teasdale et al. (2000) found that MBCT significantly reduced the risk of relapse in people with recurrent depression.

Mindfulness for psychosis is in its relatively early stages of development and is a person-based cognitive therapy. Psychological problems are defined in terms of distress and behavioural difficulties instead of symptoms (Chadwick et al., 2005). It is based on cognitive theory, i.e. that distress is not a consequence of the psychotic symptoms but is mediated by meaning. Distress is a consequence of the relationship with an experience (Abba et al., 2008).

Chadwick et al. (2005) suggest that distress from an unpleasant psychotic experience arises when there is firstly, experiential avoidance i.e. the person avoids remaining in contact with the experience and takes measures to reduce the frequency of the experience or the places in which they occur. Secondly there is a negative judgement of the experience often as an “other” (e.g. a voice) and/or a negative judgment about the self. Thirdly both rumination and confrontation are understood as resistance to the experience. A more mindful reaction involves a clear awareness of the psychotic symptom and an acceptance of the experience as being transient, not defining the self and not as a true reality. A mindful response involves noticing the psychotic symptom and allowing it in and out of consciousness without confronting it or ruminating about the experience. Chadwick et al. (2005) do not propose that the psychotic symptom will become more pleasant but that the distress from the reaction to it will significantly reduce. Please see figure 1.2.

Chadwick et al. (2005) developed a standardized group treatment protocol for patients with psychosis adapted from MBSR and MBCT. They adapted MBCT to minimise the

Figure 1.2: A model of relating mindfully to psychosis (Chadwick et al., 2005).



likelihood of harmful effects of mindfulness on patients with psychosis. Instead of full mindfulness of the body they taught only mindfulness of the breath. They also taught “choice less attention” rather than deep mediation to reduce the risk of triggering hallucinations. Mindfulness practice was more guided than in MBCT to reduce the likelihood of patients getting lost in their psychosis. Sessions were shorter with breaks, groups were smaller and the therapeutic relationship had more emphasis than in MBCT. Each week there were two guided ten minute mindfulness practices which included mindfulness of the breath followed by a one minute focus on the body. From session three onwards the emphasis was on components of mindfulness, such as letting go and acceptance. This was done through a mix of teaching, guided discovery and prompts during mindfulness practice.

4.2. Review of mindfulness interventions

As mindfulness based interventions for psychosis are in relatively early stages of development the evidence base is currently limited. Two naturalistic studies examining the effects of mindfulness on psychosis were found in the literature search. The outcome of both studies implies that mindfulness groups are effective in encouraging individuals to relate differently to their distressing experiences.

Chadwick et al. (2005) examined the effect of group based mindfulness training on clinical functioning with eleven patients who had psychotic experiences, six of these patients heard voices. Measures were taken pre and post mindfulness training. Chadwick et al. (2005) used the Clinical Outcomes in Routine Evaluation (CORE handbook, 1988) measure which assesses common symptoms of psychiatric distress and subjective well-being. They also used the Mindfulness Questionnaire (Hember, 2003, cited by Chadwick et al., 2005) which measures how mindfully a person responds to their distressing symptoms. The groups were run according to the protocol described above for 6 weeks. Chadwick et al. (2005) found a significant reduction in the total CORE score post group. They found a 42 percent increase on the mindfulness questionnaire for voices post group, suggesting that participants were responding more mindfully to their voices. However mindfulness scores for voices were lower than mindfulness scores for thoughts/images, indicating that participants found it more difficult to be mindful of voices. There was no control group in this study which makes it difficult to conclude that any of the changes observed are attributable to mindfulness rather than therapeutic factors of attending a group. Participants also received TAU which might have contributed to some of the improvements.

Abba et al. (2008) used grounded theory analysis to examine the psychological processes involved in responding mindfully to psychotic symptoms. They did not do this specifically in relation to hallucinations or examine outcomes therefore the study will be just briefly outlined. Eleven of the sixteen participants heard voices. All participants had attended at least four of the six mindfulness sessions and the majority of participants were interviewed in a group setting. The core variable developed through grounded analysis was “experiencing how to relate differently to psychosis”. The main processes that Abba et al. (2008) identified as being important in relating differently to psychosis included allowing psychotic experiences into awareness, letting distressing experiences (e.g. voices) enter and leave awareness with reacting to them or struggling with them and by accepting these experiences reclaiming power over them. As in the study by Chadwick et al. (2005) it is difficult to attribute the shift in relating to psychosis specifically to mindfulness as there was no control group.

4.3. Summary and conclusions

Mindfulness based practice for individuals who experience auditory hallucinations is in its relatively early stages of development. Consequently there is limited literature examining its effectiveness. Despite the methodological limitations of these small studies it appears that mindfulness practice could be beneficial in assisting individuals change their reactions to and perceptions of their experiences which could reduce distress.

5. Acceptance and commitment therapy (ACT)

5.1. Overview of ACT

ACT includes mindfulness and acceptance (Guadiano & Herbert, 2006) and is based on the idea that attempting to avoid or suppress difficult thoughts or experiences leads to maladaptive behaviours (Bach & Hayes 2002). In ACT patients are encouraged to accept their symptoms by non-judgementally noticing experiences that might stop them achieving their goals and also to reduce the use of strategies that control their unpleasant symptoms (Guadiano & Herbert, 2006). The commitment element of ACT is that behaviour is related to personal goals rather than to symptoms (Shawyer et al., 2007). Bach and Hayes (2002) described some components which are taught in ACT these include firstly, identifying and discarding internal strategies used to control symptoms, secondly, accepting the experience of hearing voices and/or other difficult experiences or thoughts, thirdly, to notice these experiences without judging them, struggling with them or taking them as reality and fourthly to focus on behaviours that produce beneficial outcomes.

5.2. Review of ACT

Two RCTs that looked at the efficacy of ACT with inpatients were found in the literature search. Both RCTs examined the effect of ACT on re-hospitalisation rates and symptoms. Bach and Hayes (2002) compared a brief ACT (four sessions) intervention to TAU with 80 inpatients who had experienced hallucinations or delusions. Measures were taken at baseline and at a 4 month follow-up. Guadiano and Herbert (2006) compared ACT to enriched TAU with 40 inpatients on measures of

symptomology and on re-hospitalisation. Participants in the ACT condition received an average of three treatment sessions. Measures were taken at baseline and just prior to discharge. Re-hospitalisation rates were looked at 4 months post discharge.

The RCTs had different findings with regards to symptoms. Both studies found that there were no significant differences in the frequency that an individual experienced their delusions or hallucinations between the two groups at follow-up. Bach and Hayes (2002) found that significantly more individuals who received ACT reported experiencing symptoms. This might reflect an increase in acceptance and a decrease in denial of their symptoms. Guadiano and Herbert's (2006) RCT did not replicate this finding. When examining the effect of ACT on distress Bach and Hayes (2002) found no significant difference between the two groups on distress related to symptoms. On the contrary Guadiano and Herbert (2006) found that patients who had received ACT reported significantly less distress related to hallucinations. With regards to the extent to which an individual believed their experiences Bach and Hayes (2002) found that individuals who received ACT were significantly less likely to believe their experiences (e.g. what the voices told them). However, Guadiano and Herbert (2006) did not replicate this finding.

Both studies examined re-hospitalisation data at 4 months post-discharge. Both RCTs found that patients who were allocated to the TAU/ETAU were more likely to have been re-admitted. Bach and Hayes (2002) found this difference to be significant. Guadiano and Herbert (2006) did not find this difference to be significant but found that those in the ETAU were 1.62 times more likely to be re-hospitalised in the 4 months post-discharge.

5.2.1. Methodology

Bach and Hayes (2002) included participants who were experiencing hallucinations or delusions at the time of admission while Guadiano and Herbet (2006) included participants who had a diagnosis of psychosis. In both RCTs participants in the groups were similar after randomisation. An ACT protocol was used in both trials. Adherence to the protocol was not checked in the trial by Bach and Hayes (2002). Adherence to the protocol was reviewed by consultations with an ACT expert in the trial by Guadiano and Herbet (2006). They could not audio-tape sessions for adherence checks as participants would not give consent for this. Neither of the trials used blind raters. The attrition rates were 22 percent (Bach and Hayes, 2002) and 27 percent (Guadiano and Herbet, 2006). The measures used were not validated in the trial by Bach and Hayes (2002) but Guadiano and Herbet (2006) did use validated outcome measures.

5.3. Summary and conclusions

The evidence from these two RCTs is inconsistent. They both imply that ACT might be beneficial for individuals who experience auditory hallucinations. They both imply that ACT does not reduce the frequency of symptoms. ACT might increase acceptance of distressing symptoms but it is unclear whether it has an effect on distress or the believability of symptoms. The findings from these RCTs imply that ACT might reduce rates of re-hospitalisation. The conclusions of these RCTs should be taken with caution due to methodological weaknesses such as the use of non-blind assessors and non-validated measures.

6. Hallucination focused integrative treatment (HIT)

6.1. Overview of HIT

In the Netherlands in 1994 a “voices clinic” was established for patients with persistent auditory hallucinations. The goal of this clinic was to increase patients control over their voices, reduce distress associated with voices and increase adherence to medication (Jenner, 2002). This led to an integrated treatment known as HIT (Farhall, Greenwood & Jackson, 2007). It is a multi-modal family therapy which integrates different treatment methods such as: psychoeducation; medication; CBT; coping strategy training; family treatment; rehabilitation (Farhall et al., 2007) and motivational interventions (Jenner, 2002). It also includes 24 hour outreach crisis intervention (Jenner & van de Willige, 2001). The intervention involves 20 one hour sessions over a period of nine months to a year (Jenner, 2002) and replaces routine care (Farhall et al., 2007). Motivational interviewing helps the therapist flexibly apply the intervention to the patient’s level of insight (Jenner, 2002). Patients have the responsibility of choosing the timing and ordering of the interventions (Jenner, 2002). Jenner and de Willige (2001) described some main principles of HIT, these include: working in two realities (hallucinations are accepted as a reality which the patient is made responsible for) and conflict management (acceptance and negotiation rather than confrontation).

6.2. Review of HIT

One RCT and two naturalistic studies have examined the effectiveness of HIT on aspects of auditory hallucinations. They all produced promising findings.

6.2.1. Naturalistic studies

Two naturalistic studies have examined the effect of HIT on auditory hallucinations. The larger study by Wiersma, Jenner, van de Willige, Sparkman and Nienhuis (2001) examined the effectiveness of HIT on 40 out-patients who received HIT for an average of 12 months. Validated measures were completed at baseline, approximately 2 years after treatment started (time 1) and at a 4 year follow up (time 2). At time 1 18 percent of the participants were free from hearing auditory hallucinations. The reported number, frequency, burden and duration of auditory hallucinations significantly dropped from baseline. The negative content of the voices did not reduce. These differences were significant between baseline and time 1 and baseline and time 2 but not between time 1 and time 2. This suggests that improvements were made between baseline and time 1 and these improvements were maintained but not enhanced between time 1 and time 2. They also found improvements in relation to social functioning. A smaller study by Jenner and van der Willige (2001) looked at the effect of HIT on 14 adolescents with early onset psychosis. They used a similar design to that described above of Wiersma et al. (2001). They found that by the end of therapy 64 percent of the patients had been free of voices for at least two consecutive months. Differing from the Wiersma et al. (2001) study they found that the negative content of the voices reduced from 85 percent to 25 percent. They also found an improvement in social functioning and patients reported high satisfaction with HIT. Both of these studies followed a protocol for HIT and they used validated assessment measures which were administered by an independent researcher. The main limitations of these studies were the small sample sizes and retrospective assessments were used for the baseline measures.

6.2.2. RCTs of HIT

One RCT was found which examined the effect of HIT on psychopathology, subjective burden and coping behaviour. Jenner, Nienhuis, Wiersma and van der Willige (2004) hypothesised that HIT would have a positive effect on the occurrence of auditory hallucinations and their subjective burden (anxiety, control and interference with daily activities and thinking) but not on general psychopathology. Jenner et al. (2004) compared RC (this included continued group treatment with their regular therapist) to HIT in 76 patients with medication resistant auditory hallucinations. Participants received HIT for 9 months. Validated measures were taken at baseline and at 9 months by independent raters. At 9 months both groups showed a reduction in the severity of their auditory hallucinations. Patients in the HIT group changed significantly more than those in the RC group on measures of distress and total burden. On indices of frequency of voices and control the difference almost met significance. Patients in the HIT group also improved significantly more on measures of positive symptoms, general psychopathology and disorganization. In both groups the number of coping strategies used reduced by 9 months. There were no significant differences in the amount of coping strategies used by the two groups. At follow up significantly more patients in the HIT group were using normalisation and empowerment as coping strategies. The findings of this RCT are promising for HIT with regards to several aspects of auditory hallucinations and other symptoms.

6.2.2.1. Methodology

Participants in this study were relatively homogenous. They all had a diagnosis of nonaffective psychosis. At baseline the only difference between the two groups was

that those in the HIT group reported significantly higher distress associated with their auditory hallucinations. Participants in each group received similar care with both groups receiving an equal amount of contact from services. The intervention was manualised and fidelity to the treatment was monitored initially through a one-way mirror and at later dates through supervision. A limitation of this study is that the raters were not blind to conditions. This study had a low drop-out rate of 9 percent.

6.3. Summary and conclusions

As only a small number of studies have examined the effectiveness of HIT on individuals who experience auditory hallucinations it is hard to draw conclusions, however the findings of these small studies are promising. The findings suggest that HIT might be beneficial in reducing the burden and frequency of auditory hallucinations and also distress experienced as a consequence of hallucinations.

7. Discussion and recommendations for future research

This review has explored the efficacy of several different therapeutic interventions on auditory hallucinations. A diverse range of psychological interventions are used for auditory hallucinations. These might be classified into cognitive-behavioural (individual and group CBT), acceptance based therapies (mindfulness and ACT) and an integrative treatment (HIT), which encompasses all of the above. Research trials showed that all of these therapies were effective to some degree, for individuals with auditory hallucinations. This is hopeful and reinforces support for the amenability of auditory hallucinations to psychological therapy.

The evidence base of psychological interventions for auditory hallucinations has developed significantly over the past ten years. CBT has the most advanced and methodologically valid evidence base with a large quantity of RCTs. The evidence for the efficacy of CBT in comparison to TAU or SC is quite strong indicating the CBT is an important and useful therapy for auditory hallucinations. It is more difficult to conclude about the maintenance of improvements after CBT. The majority of trials did find that improvements were maintained but small proportion did not making the evidence quite inconsistent. Further RCTs with long-term follow up data would help inform whether the effects of CBT are maintained. Trials looking at the effect of CBT on specific aspects of auditory hallucinations generally had different findings. There was one common theme, which was that CBT reduced the frequency of auditory hallucinations but the maintenance of these improvements was inconclusive.

The evidence for the effectiveness of CBT in a group setting is more difficult to make conclusions from. The more methodologically valid trials found no evidence for the efficacy of group CBT on auditory hallucinations. The findings of several less methodological sound trials contradicted this and produced much more promising results. The findings of these trials indicated that group CBT leads to changes in an individual's beliefs about their voices which in turn reduced levels of distress. Nonetheless, given that the RCTs found no effectiveness of CBT compared to TAU it must be concluded that group CBT for psychosis is an unproven intervention.

Newer acceptance based interventions show promising results for auditory hallucinations but as they are in the relatively early stages of development the evidence base is small and limited. The findings of mindfulness based interventions for psychosis indicate that it might be a useful intervention in helping individuals

relate in a different way to their voices, which in turn might reduce distress. This tentative conclusion should be taken with caution due to the methodological weakness of the two small studies. Further more methodologically valid research in this area is important in examining the effectiveness of mindfulness. ACT also has a limited evidence base but the findings of two RCTs do imply that ACT does not reduce the frequency of hallucinations but might increase acceptance of distressing experiences. The evidence suggests that ACT does reduce re-hospitalisation rates but the explanations for this are currently unclear. Again further research in this area is needed to help support the evidence-base for ACT.

The evidence of the effectiveness of the integrated therapy HIT is promising. The evidence indicates that HIT reduces the frequency and burden of hallucinations and also reduces distress. These conclusions should be taken with caution as there are only a small amount of research trials examining the effectiveness of HIT and these studies have methodological weakness. HIT is used as standard treatment in the Netherlands. Further RCTs examining the efficacy of HIT are needed if it is going to be implemented outside the Netherlands. It would be a challenge to redevelop services in the UK to fit this model. Piloting HIT in the UK would be advantageous in determining whether services in the UK can meet the demands of this treatment and whether patients find it acceptable and effective.

The diversity in the findings that trials reported might in part be due to the diversity of presentations among individuals who experience auditory hallucinations. Individuals who are acutely psychotic might respond differently to interventions than individuals who have been hearing voices for many years. This has been looked at with regards to some therapies (e.g. CBT; Zimmerman et al., 2005) but would be worth considering

further in relation to other interventions. This would help services develop psychological interventions that best suit their service users. Even with therapies that have examined this such as CBT it might be worth doing dismantling studies to examine whether some aspects of CBT have better outcomes with certain patient groups.

It is difficult to examine the effectiveness of interventions on auditory hallucinations in isolation. Participants in the majority of the studies reviewed had a diagnosis of a disorder on the schizophrenic spectrum. Other difficulties that participants had would confound their outcome in these studies. For example negative symptoms or lack of insight might decrease motivation to change and thought disorder might make it difficult for participants to fully understand and benefit from therapy. The majority of patients in these studies would have been on medication. Changes in medication were often controlled for but the side-effects of medication, such as tiredness could have influenced an individual's outcome.

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Part 2: Empirical paper

Compliance with command hallucinations:

**The role of the power of the voice, social rank and
moral disengagement**

Abstract

This study examined four factors hypothesised to mediate compliance to harm-other command hallucinations. The factors investigated were: the perceived power of the commanding voice, participants' perceived social rank in relation to the commanding voice, their perceived social rank in relation to others and moral disengagement. Thirty-two male participants were recruited from forensic services. Participants were identified as belonging to one of two groups: compliers or resisters. Individuals who had never complied with a harm-other command were identified as a resister. Semi-structured interviews and questionnaires were administered with participants. Beliefs that the commanding voice was more powerful than the self and of a higher social rank than the self were associated with compliance. There were no significant differences between the two groups on perceptions of social rank in relation to others, and on moral disengagement. The significant findings of this study can be understood in terms of the relationship an individual has with the commanding voice and are congruent with cognitive models of hallucinations.

Introduction

Auditory hallucinations are one of the principal symptoms of schizophrenia and psychotic disorders (Birchwood et al., 2004). A command hallucination is a particular type of auditory hallucination wherein the voice commands the individual to engage in a specific action (Mackinnon, Copolov & Trauer, 2004). The main feature that distinguishes a command hallucination from other hallucinations is that the voice is heard as commanding, not commentating (Braham et al., 2004).

The reported prevalence of command hallucinations in patients who experience auditory hallucinations has varied among studies, but their occurrence appears relatively common. McNiel et al., (2000) found that 30 percent of inpatients, with varying diagnoses, reported hearing command hallucinations. When examining the occurrence of command hallucinations solely in individuals who hear auditory hallucinations prevalence rates have varied (53 percent, Lee, Chong, Chan & Sathyadevan, 2004; 67 percent, Mackinnon, Copolov & Trauer, 2004). In a review of 8 studies Shawyer, Mackinnon, Farhall, Trauer and Copolov (2003) found that the occurrence of command hallucinations varied from 18 percent to 89 percent, with an average prevalence rate of 53 percent. The prevalence of command hallucinations has been found to be similar in non-forensic and forensic populations (Shawyer et al., 2003). There are three main types of command hallucinations; benign commands, self-harm commands and harm-other commands. Benign commands are the most frequently reported (Kasper, Rogers & Adams, 1996) and have the highest rate of reported compliance (Barrowcliff & Haddock, 2006).

Whether an individual complies with their command hallucinations is an invaluable area of research as command hallucinations can be drug resistant and a serious threat to the voice hearer or to others (Braham et al., 2004). Studies examining the frequency of compliance to command hallucinations have reported varying rates. With non-forensic populations this has ranged from 22 percent (McNiel, Eisner & Binder, 2000) to 75 percent (Fox, Gray & Lewis, 2004) with a median rate of 31 percent across seven studies (Shawyer et al., 2003). Rates of reported compliance are higher in forensic populations (Shawyer et al., 2003). Rogers, Gillis, Turner and Frise-Smith (1990) found that 80 percent of patients in a forensic setting had recently complied with their command hallucinations and 56 percent of these complied with “unquestioning obedience”.

Command hallucinations may instruct the hearer to do something dangerous and if complied with, can lead to offending behaviour (Braham et al., 2004). Patients in forensic settings regularly report that their voices commanded them to engage in criminal activity (Rogers et al., 1990; Thompson, Stuart & Holden., 1992). When examining the relationship between violence and command hallucinations Shawyer et al. (2003) found that seven out of nine studies concluded that individuals who hear command hallucinations are no more likely to be violent than individuals who hear non-commanding hallucinations. Conversely McNiel et al. (2000) found that, in a forensic setting, harm-other command hallucinations were a significant predictor of violence but that this association was only significant in the presence of other psychotic symptoms.

As not all commands are complied with, the question to consider is what mediates whether an individual acts on their command hallucinations. A cognitive approach would imply that it is the appraisal of the experience (i.e. the auditory hallucination) that influences compliance to commands (Beck-Sander, Birchwood & Chadwick, 1997). According to Birchwood and Trower (2006) the hallucination is an activating event, the meaning of which is then appraised by the individual. Appraisals of the hallucination can give rise to beliefs about the voice, such as the voice's relative power, its identity and also its intent. It is this appraisal of the hallucination that influences affective and behavioural responses, such as compliance to a command (Birchwood & Trower, 2006). This approach is supported by the finding that beliefs about voices are more important than the content of the voices in determining behavioural and affective responses (Chadwick & Birchwood, 1994). Such beliefs have also been found to be important in influencing compliance to command hallucinations (Beck-Sander et al., 1997).

Power has been defined as the "beliefs an individual makes about how much they can or cannot control the voice and how much they need to comply" (Birchwood & Trower, 2006, p. 4). Birchwood and Chadwick (1997) found that 85 percent of voice hearers perceived their voices as powerful and themselves as weak, thus feeling unable to achieve control over their voices. Such perceptions of the voice as more powerful than the self have been associated with higher incidences of distress, depression (Birchwood et al., 2004) and compliance to command hallucinations (Fox et al., 2004). This relationship has been found to be particularly strong for individuals who report harm-other commands (Fox et al., 2004). Fox et al. (2004) hypothesised that the perception of a voice as powerful might inhibit peoples' strong emotional

responses against harming others. Further support for this relationship comes from a randomised controlled trial of cognitive therapy for command hallucinations (Trower et al., 2004), which found that a reduction in compliance to commands was associated with a reduction in the perceived power of the voice.

Social comparison is known to be important in explaining behaviours expressed between groups and between individuals (Allan and Gilbert, 1995). The appraisal of another results from a process of comparison, serving the function of social ranks. Social rank theory (Allan & Gilbert, 1992) proposes that people develop perceptions of their own social rank (inferiority or superiority) within a social hierarchy. Allan and Gilbert (1995) suggested that an individual's perception of their own social rank is derived from a comparison of relative strength and power, social attractiveness and talent, and perceived belonging within a social group. Individuals who perceive themselves as superior are able to intimidate or threaten those they perceive as inferior. Those who perceive themselves as inferior either escape, submit or comply with those perceived as superior (Gilbert, 1992). This response to a superior other is thought to be a self-protective and defensive response (Birchwood, Meaden, Trower, Gilbert & Plaistow, 2000). It is a way of de-escalating potential threat and terminating aggression directed at the self (Byrne, Birchwood, Trower & Meaden, 2006).

An individual who hears voices can develop two perceptions of their social rank, one in relation to relative others and one in relation to the voice (Birchwood et al., 2000). Both of these perceptions might be important in mediating compliance with command hallucinations. Social Rank theory has been applied to the relationship between the

voice hearer and voice (Birchwood et al., 2000); the self is often appraised as being inferior to the voice (Birchwood et al., 2004). Birchwood et al. (2000) described the relationship between the voice hearer and voice as an “involuntary subordination to a powerful other”. Using social rank theory this would suggest that an individual who perceives themselves to be of a lower social rank (inferior) than the voice would escape, submit or comply with the commanding voice to reduce the potential threat. The influence of the perception of a commanding voices social rank on compliance with command hallucinations has not previously been examined.

Research exploring the relationship between compliance with command hallucinations and an individual’s perception of their social rank in relation to others has reported different findings for different types of commands. Fox et al. (2004) reported that individuals who perceived themselves as inferior in their social rank were more likely to comply with self-harm commands, while those who perceived themselves as superior were more likely to comply with harm-other commands. If an individual perceives themselves as superior, in relation to others, they are able to threaten or intimidate those around them. This is to prevent attacks on their status of superiority (Fox et al. 2004) and could explain the relationship between a perception of a high social rank and compliance with harm-other command hallucinations. The mediating role of a perception of superiority on compliance to harm-other commands is supported by the finding that a perception of a high social rank is a predictor of violence (Morgan & Gilbert, 2001).

Therefore the association between harm-other command hallucinations and social rank is two-fold. Firstly, if an individual perceives themselves to be of a lower social rank than their voice they are more likely to submit or comply with their voice. Secondly, if an individual perceives themselves to be of a higher social rank in comparison to others they are able to threaten or intimidate those around them, potentially increasing the likelihood of complying with harm-other command hallucinations.

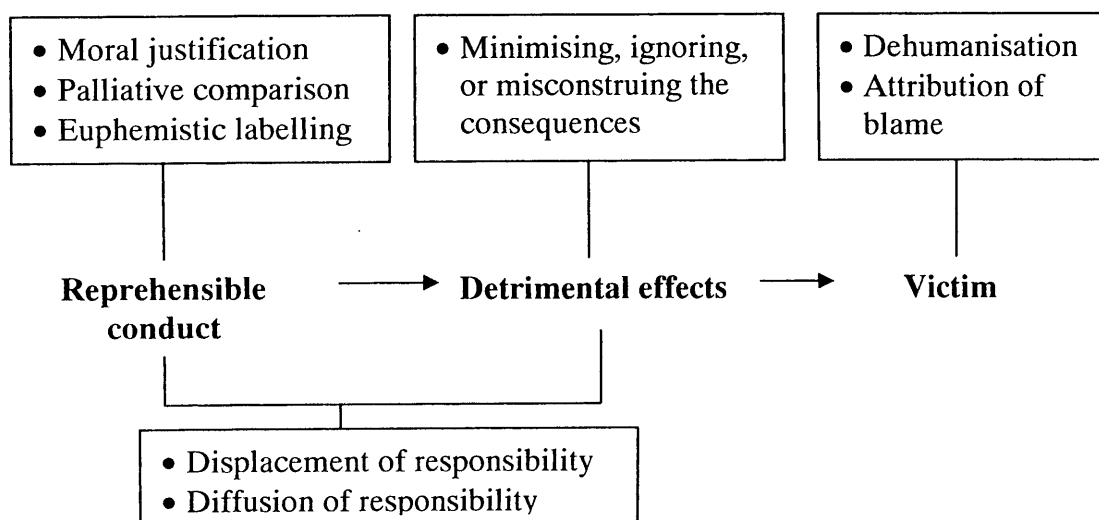
Moral disengagement is a term that Bandura (1986) elucidated in order to explain the way that a person can justify their harmful or aggressive behaviour. It describes how an individual is able to disengage from moral self-sanctions that regulate their behaviour. Moral disengagement has been shown to have a role in a range of forms of reprehensible conduct (Osofsky, Bandura & Zimbardo, 2005) including terrorism, antisocial pursuits (Bandura, 2002) and delinquent behaviour (Mulford, 2004).

The role of moral disengagement in compliance to command hallucinations has not been explored. Commands that might be deemed socially and morally unacceptable are complied with (Beck-Sander et al., 1997). Individuals who comply with socially or morally unacceptable commands might disengage more easily from their moral self-sanctions than those who do not comply with such commands.

Bandura, Barbaranelli, Caprara and Pastorelli (1996) described four points in the self-regulatory system at which disengagement from our internal moral code can occur. As figure 2.1 shows we can disengage from our moral code by reconstruing the harmful conduct, by minimising our role in the reprehensible conduct, by minimising or distorting the harm caused by the detrimental conduct and by dehumanising or blaming the victim.

As can be seen in figure 2.1 eight mechanisms are involved in this process. Reconstruing the harmful conduct can occur through *moral justification*; reprehensible conduct is depicted as serving socially or morally valued purposes, such as protecting one's reputation or honour (Jackson & Sparr, 2005). *Palliative comparison* redefines the harmful conduct by comparing it with behaviour that is more reprehensible making the harmful conduct appear less injurious (Bandura et al., 1996). Individuals who hear command hallucinations are known to appease the voices by engaging in other behaviours that are more acceptable (Beck-Sander et al., 1997). For example, if a voice is commanding an individual to kill a particular person they might appease the voice by just harming that person. This redefines the harmful conduct as harming someone is comparatively less reprehensible than killing someone. *Euphemistic language* involves using language to alter the appearance of the destructive conduct by avoiding the use of negative connotations, replacing them with pleasant or positive language (Bandura, 2002).

Figure 2.1: Mechanism through which moral self-sanctions are selectively disengaged from reprehensible conduct at points in the self-regulatory system (Bandura, 1986).



An individual can minimise their role in the reprehensible conduct by the *displacement of responsibility*. Under displaced responsibility an individual views his or her behaviour as stemming from pressures or dictates of others, simply following orders (Jackson & Sparr, 2005). This allows an individual to not feel personally responsible for his or her actions and the arising consequences. As discussed earlier compliance with harm-other command hallucinations is associated with a perception of the voice as being more powerful than the self (Fox et al., 2004). An individual who complies with harm-other command hallucinations might be able to morally disengage from their self-sanctions by displacing responsibility for their conduct onto the voice, thus justifying their action as simply following orders that the powerful voice gives.

The responsibility of an individual's role in the harmful conduct can be diffused by the division of labour, group decision making and engaging in collective action (Osofsky et al., 2005), the reprehensible conduct can then mainly be attributed to the behaviour of others (Bandura et al., 2006). An individual might perceive the decision to harm another as a joint decision between themselves and the voice, therefore *diffusing responsibility* for the harmful conduct.

If the consequences of one's detrimental behaviour are *minimised, ignored or misconstrued* the negative effects of the behaviour would not be acknowledged, consequently there is no need for moral self-regulation (Osofsky et al., 2005). This can occur through selective inattention, cognitive distortion or the discrediting of evidence of the harmful effects (Bandura et al., 1996).

Disengagement from the moral code of violence towards others can occur by *dehumanising the victim*. If the victim is thought to be devoid of human qualities such as feelings and hopes it becomes easier to direct harm towards them (Bandura, 2002). An individual might perceive the commanding voice to be informing them that the intended victim is inhuman, for example demonic. Delusions that are congruent to appraisals of voices have been found to increase compliance (Junginger, 1990) and might contribute to a victim being dehumanised. Disengagement from our moral code can also occur by *attributing the blame* onto others, including the victim, because of compelling circumstances brought on by forceful provocation (Osofsky et al., 2005). This allows an individual to relinquish any responsibility for the reprehensible conduct (Bandura et al., 1996). Individuals who comply with harm-other command might attribute their actions to compelling circumstances brought on by the voice.

The aim of this study was to explore four factors that might mediate compliance with harm-other command hallucinations, in a forensic setting. These four factors were the perceived power of the voice, the perceived social rank of the voice in relation to the self, the perceived social rank of the self in relation to others and moral disengagement. This study focussed only on harm-other command hallucinations as different factors have been found to mediate compliance to different types of commands (Barrowcliff & Haddock, 2006). Gender has been highlighted as a confounding variable in the relationship between command hallucinations and compliance (McNiel et al., 2000; Rudnick, 1999). Thus this study examined compliance to commands with a male population.

Informed by the findings of the study by of Fox et al. (2004) it was hypothesised that individuals who report compliance with harm-other command hallucinations will

perceive the voice as more powerful and have a higher perception of their own social rank in relation to others, than those who report that they resist complying with their command hallucinations. Unlike the study by Fox et al. (2004) all the participants in this study were from a forensic population. The role of an individual's perception of their social rank in relationship to a commanding voice has not previously been examined, in regards to compliance to harm-other command hallucinations. It was, however hypothesised that individuals who comply with such commands will perceive the commanding voice to be of higher social rank than individuals who resist complying. The role of moral disengagement in compliance with harm-other command hallucinations is unprecedented in terms of research. It was predicted that individuals who report compliance with harm-other command hallucinations will have significantly greater levels of moral disengagement than those who report resisting such commands.

Method

Participants

Participants were recruited for this study from several forensic settings in the greater London area. Initially participants were to be recruited from only the North London Forensic Service but due to recruitment difficulties other settings were approached. Twenty-three services were approached regarding the possibility of recruiting eligible participants; of these fourteen agreed. At four of these settings no participants were recruited for this study. Therefore, participants were recruited from ten services. These included low secure units (18.8% of participants), medium secure units (53.1% of participants), acute forensic wards (6.3% of participants), open forensic wards (12.5%

of participants) and forensic step-down accommodation (9.4% of participants). These services were both NHS and private.

Eligible participants were identified in one of two ways, dependent on what the service deemed most appropriate. In some services eligible participants were identified by the researcher examining admission summaries for indications of harm-other command hallucinations. Consultants were then contacted to gain their consent for the patient to be approached. In other services a psychiatrist or psychologist identified which patients might be eligible and suitable to be approached.

Participants were included in this study if they were male and had ever heard a harm-other command hallucination. Individuals with a diagnosis of moderate or severe learning difficulties were excluded from participating in the research, due to potential difficulties in comprehending the measures.

In total 101 individuals were identified as being potentially eligible to take part in this study. Figure 2.2 displays a flowchart of recruitment. Thirty-two participants completed the interview; 21 (65.6%) participants reported compliance with a harm-other command hallucination at some point, 11 (34.4%) participants reported never having complied with a harm-other command hallucination.

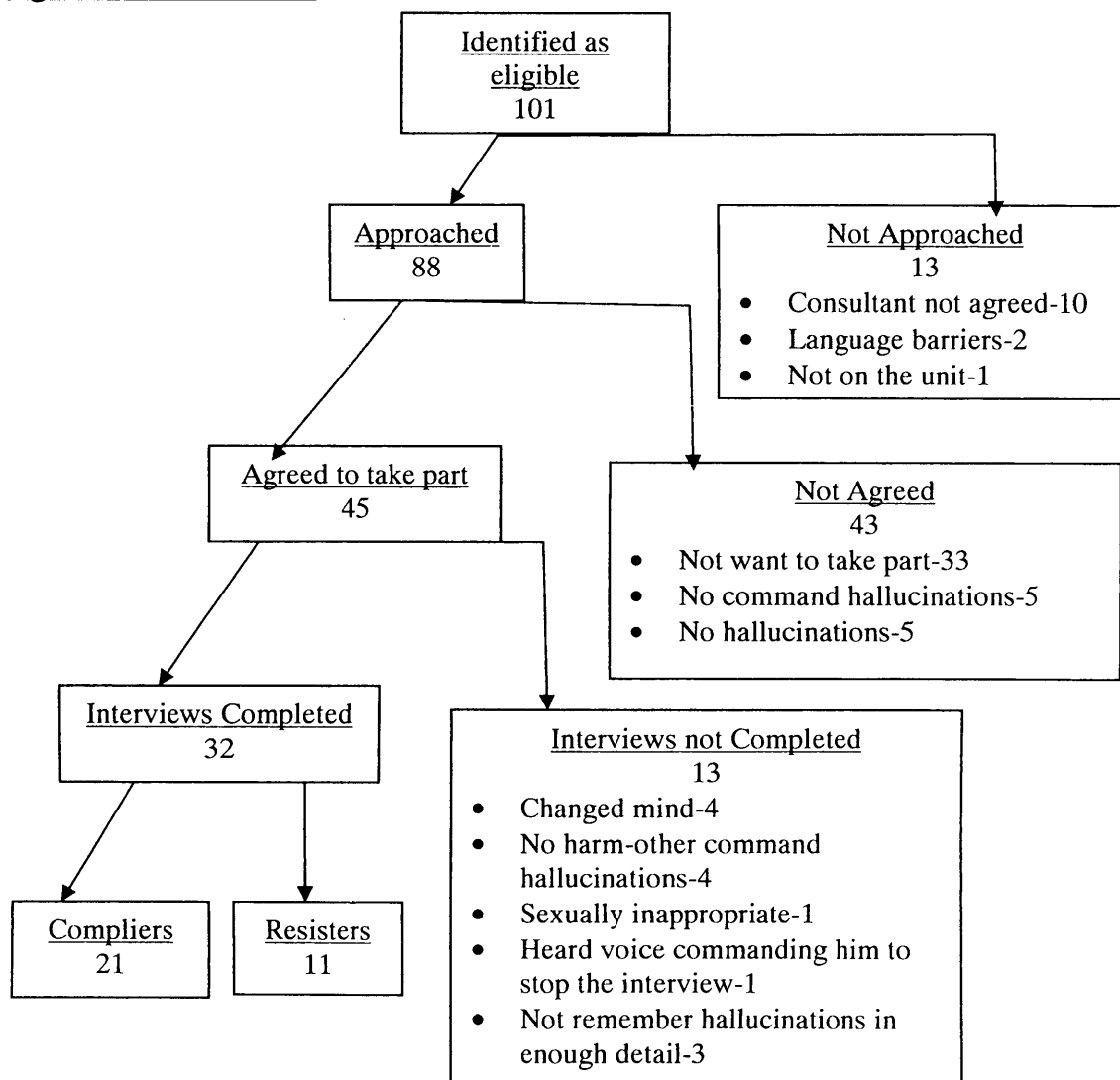
Procedure

Potential participants were approached and the purpose and process of the research were explained. If interested in taking part participants were given an information

sheet (appendix A) and the interview was arranged. At the beginning of the interview written informed consent was taken (appendix B).

Along with demographic information the measures described below were administered, by the researcher, with participants. Sections from the Mental Health Research Unusual Perceptions Schedule (MUPS; Carter, Mackinnon, Howard, Zeegers & Copolov, 1995) were administered first to ensure that participants had experienced harm-other command hallucinations. On the basis of responses to section 25 of the MUPS (see below) participants were identified as belonging to one of two

Figure 2.2: Recruitment



groups; compliers or resisters. A participant must have always resisted complying with their command hallucinations to be a resister. If they reported that they had complied with a harm-other command hallucination, even just the once, they were grouped as a complier. Some of the measures below were administered retrospectively, with the participant being asked to keep in mind the period in which they were hearing the command hallucinations. The interviews took between half an hour and an hour.

Measures

Mental health research unusual perceptions schedule (MUPS; Carter et al., 1995)

The MUPS is a semi-structured interview that investigates aspects of auditory hallucinations. It is designed so that sections of the interview schedule can be used without having to administer the whole interview. The MUPS has good interrater reliability (Cohen's kappa, 1960; $k=0.88$), and face and content validity (Carter et al., 1995).

Four sections of the MUPS were administered with participants. Section 1 involves general screening questions about auditory hallucinations. Section 2 is concerned with the onset of hallucinations and section 3 asks about the frequency of hallucinations. Command hallucinations and resistance/compliance with commands is examined in section 25 of the MUPS. Section 25 does not enquire about the type of command hallucination (i.e. harm-self or harm-others), therefore a question was added which asked whether the majority of commands were benign, harm-self or harm-others.

Rivermead memory behavioural test-extended version (RMBT-E; Wilson et al., 1999).

The RBMT-E is a measure of everyday memory performance (Spooner & Pachana, 2006). As this study used mainly a retrospective design the immediate and delayed story recall subtests from the RBMT-E were used to ensure that participant's working memories were of sufficient capabilities to recall past events. Participant's whose memory was classified as impaired were to be excluded from the study. However this did not occur.

Brief psychiatric rating scale (BPRS; Ventura, Green, Shaner & Liberman, 1993).

The BRPS was used to assess general psychopathology and symptom severity. It assesses the positive, negative and affective symptoms of psychosis. It consists of 24 items that are rated by the researcher on a 7-point Likert scale. A rating of symptomology was conducted at the time of the interview and the time of admission (from admission notes). This measure was to provide data to control for the severity of symptoms during the admission period, to ensure that compliance to command hallucinations was not just due to levels of symptomology.

Levinson's self-report psychopathy scale (LSRP; Levenson, Kiehl & Fitzpatrick, 1995).

The LSRP was used to assess psychopathic personality traits. It is a self-report measure and consists of 26 items. It assesses two domains; the first is concerned with the callous, manipulative, and selfish use of others. The second is concerned with impulsivity and poor behavioural controls. The scale has good test-retest reliability ($r=.83$) and convergent validity with established psychopathy measures ($rs=.64$;

Lynam, Whiteside & Jones, 1999). The items were summated to make a total score; a higher score indicates a higher level of psychopathic personality traits (the maximum score is 104). The LRSP was used to control for psychopathic traits and to ensure that the effect of moral disengagement on compliance with commands is not just an effect of psychopathic traits.

Voice power differential scale (VPDS; Birchwood et al., 2000)

The perceived power differential between the voice hearer and the commanding voice was measured by the VPDS. It includes constructs associated with power including strength, confidence, respect, ability to inflict harm, superiority and knowledge. There are seven questions and responses are on a five point Likert scale. The scale has good internal reliability (Cronbach's $\alpha = 0.85$) and re-test reliability ($r = 0.82$; Birchwood et al., 2000). A total score was summed from all the responses; a high score reflects the voice being perceived as powerful. The highest possible score is 35. This questionnaire was asked retrospectively, with participants been asked to keep the period in which they were hearing command hallucinations in mind.

Social comparison scale (SCS; Allan & Gilbert, 1995)

The SCS assesses individuals' perception of their social rank in relation to others. This scale has eleven questions and responses are on a 10-point Likert scale. It has subscales of social rank, social group fit and social attractiveness. It has been found to have good internal reliability (Cronbach's $\alpha = 0.87$) and test-retest reliability ($r = 0.84$; Allan & Gilbert, 1995). A total score was gained by summing all the responses

(maximum score of 110). A high score reflects the individual perceiving themselves to be of a higher social rank than others.

Voice rank scale (VRS; Birchwood et al., 2000)

Birchwood et al. (2000) adapted the SCS to measure an individual's perceived social rank in relation to the dominant voice. Similarly to the SCS the VRS has eleven questions and responses are on a 10-point Likert scale. The VRS has good internal reliability (Cronbach's $\alpha = 0.80$) and re-test reliability ($r = 0.77$; Birchwood et al., 2000). As with the SCS a total score is gained from summing the responses, with a maximum score of 110. The total scores were reversed so that a higher score reflects the individual perceiving the voice to be of a higher social rank than themselves. This questionnaire was asked retrospectively, with participants being asked to keep the period prior to admission in mind.

Civil moral disengagement (CMD) questionnaire (Caprara & Capanna, in press)

The CMD questionnaire assesses the tendency to use mechanisms of moral disengagement in everyday activities. It has been developed with Bandura's (1996) eight mechanisms of moral disengagement as generative criteria and has forty questions which are equally divided across these eight mechanisms. Each item refers to violations of ethical codes and norms of everyday life. Responses are on a five-point Likert scale. A total score is summated from all responses (maximum score of 200). A higher score reflects a higher tendency to morally disengage. The CMD questionnaire has good reliability (Cronbach's $\alpha = 0.92$; Caprara & Capanna, in

press) and construct validity (Caprara, Fida, Vecchione, Tramontano, & Barbaranelli, in press).

Appendix C displays a copy of the interview schedule.

Ethical approval

Ethical approval was gained from the National Research Ethics Service (National Research Ethics Service, no date; appendix D).

Power analyses

A power analysis was completed on three of the variables (inferiority in real-life social relationships, superiority in real-life social relationships and power of the voice) in Fox et al.'s (2004) study using zumastat 2.3. This was to determine the sample size needed for this study to have statistical power. Using Fox et al.'s (2004) effect size for inferiority the power analysis suggested that with a medium effect size (ES) of 16.13, pooled standard deviation (SD) of 12.89 and power of 0.8 there needed to be 11 participants in each group for this study to have statistical power. With Fox et al.'s (2004) effect size for superiority the power analysis suggested that with a medium ES of 5.41, pooled SD of 5.9 and power of 0.8 there needed to be 18 participants in each group for this study to reach power. The power analysis on the power of the voice suggested that with a medium ES of 2.21, pooled SD of 2.81 power of 0.8 there needed to be 24 participants in each group for the study to have statistical power.

Statistical analyses

All statistical analyses were performed using Statistical Package for Social Sciences (SPSS Version 16). The two groups (compliers and resisters) were compared for statistical differences on the four independent variables and variables that were controlled for using Mann-Whitney U-tests. Non-parametric tests were used because the data was not normally distributed and the sample size was small, i.e. the data did not meet the assumptions needed for parametric tests. Chi-squared tests were used to analyse categorical data (e.g. educational level). Correlations were performed to ensure that different variables were measuring different concepts using Spearmans rank order correlation coefficient.

Results

Thirty-two participants in total were included in the study; 21 (65.6%) reported compliance with harm-other command hallucinations and 11 (34.4%) reported never complying with a harm-other command hallucination.

Demographics

All participants were male. The mean age of participants was 34.19 (SD, 11.81; range, 18 to 56). Thirteen (40.6%) participants were of White ethnic origin, 12 (37.5%) were Black British, 3 (9.4%) were Caribbean, 3 (9.4%) were African and 1 (3.1%) was of Asian ethnic origin. The mean age of participants' finishing education was 16.18 years (SD,

11.61). With regards to qualifications 13 (40.6%) participants had no qualifications, 15 (46.9%) had GSCE's or equivalent, 2 (6.2%) had vocational qualifications, 1 (3.1%) had A levels and 1 (3.1%) had a degree. Prior to their current admission 14 (43.8%) participants were unemployed, 4 (12.5%) were employed part-time, 7 (21.9%) were employed full time, 1 (3.1%) was doing voluntary work and 6 (18.7%) were not working due to a disability. Twenty-nine (90.6%) participants' were single, 1 (3.1%) was in a relationship, 1 (3.1%) was married and 1 (3.1%) was divorced. There were no significant differences between the two groups in age, ethnicity, the age they finished education, highest educational level, employment status and relationship status.

Thirteen (40.6%) participants had a primary diagnosis of schizophrenia, 1 (3.1%) had a primary diagnosis of schizoaffective disorder, and 14 (43.8%) had a primary diagnosis of paranoid schizophrenia. Three (9.4%) participants had a primary diagnosis of borderline personality disorder but also had an Axis 1 diagnosis of a psychotic nature. The diagnosis of 1 (3.1%) participant was not known. The two groups were not significantly different in terms of their diagnoses. Index offences were: grievous bodily harm (7, 21.9%); actual bodily harm (8, 25%); attempted murder (3, 9.4%); manslaughter (4, 12.5%); possession of a fire arm (2, 6.3%); arson (3, 9.4%); harassment (1, 3.1%); attempted burglary (1, 3.1%); rape (1, 3.1%).

Participants' age of first contact with mental health services and the length of time between their first contact with services/their current admission and the research interview can be seen in table I. There were no significant differences between the two groups on these aspects.

Table I: Group means for age of first contact with mental health services and length of time since first contact/admission and interview

	Total (n=32) Mean (SD)	Compliers (n=21) Mean (SD)	Resisters (n=11) Mean (SD)
Age of first contact with mental health services	24.7 (10.04)	26.19 (10.15)	21.7 (9.62)
Number of years between first contact with mental health services and interview	10.02 (6.6)	9.61 (6.2)	10.83 (7.62)
Number of days between current admission and interview	510.16 (834.71)	453 (530.56)	614.09 (1239.75)

Auditory and command hallucination frequency

The mean age that participants reported that they first heard voices was 22.92 years (SD, 9.82, range, 5 to 51); compliers (23.79, SD, 11.03, range, 5 to 51), resisters (21.45, SD 7.52, range, 8 to 32). The mean number of weeks that participants heard voices for in their last episode was 119.54 (SD, 263.96); compliers (118.19, SD, 207.46), resisters (121.7, SD, 349). The groups did not differ significantly on these aspects.

The frequency of voices and command hallucinations are displayed in table II. Due to the small number of participants in each category (e.g. rarely, often) no statistical analyses were completed to compare the two groups. By just looking at the data it appears that individuals in the compliers group reported hearing voices more often in their lifetime than individuals in the resister group. More resisters reported that they rarely heard voices in their lifetime. Additionally proportionally more resisters

reported that the frequency of the voices in the last episode were both rare and constant in comparison to compliers. When examining the frequency of command hallucinations more individuals in the complier group reported that the voices often told them what to do, while proportionally more individuals in the resister group reported that they voices rarely told them what to do.

Table II: Frequency of voices and command hallucinations

			Total (n=32)	Compliers (n=21)	Resisters (n=11)
Ever heard voices	Rarely		4 (12.5%)	1 (4.8%)	3 (27.3%)
	Sometimes		4 (12.5%)	2 (9.5%)	2 (18.2%)
	Often		24 (75%)	18 (85.7%)	6 (54.5%)
Frequency of voices in last episode	Rare		4 (12.5%)	2 (9.5%)	2 (18.2%)
	Occasional		7 (21.9%)	6 (28.6%)	1 (9.1%)
	Often		7 (21.9%)	6 (28.6%)	1 (9.1%)
	Constant		14 (43.8%)	7 (33.3%)	7 (63.6%)
How often the voices told you what to do	Rarely		11 (34.4%)	5 (23.8%)	6 (54.5%)
	Sometimes		10 (31.3%)	7 (33.3%)	3 (27.3%)
	Often		11 (34.4%)	9 (42.9%)	2 (18.2%)

Participants in the resist group reported that they always resisted complying with their command hallucinations. Nine (42.9%) participants in the compliers group reported that they were never able to resist complying with their command hallucinations. Of the 12 (57.5%) remaining participants in the complier group 4 (19%) reported that they rarely resisted complying, 7 (33.3%) reported that they sometimes resisted complying and 1 (4.8%) participant reported that he often resisted complying with his command hallucinations.

Compliance with commands: group differences

Table III shows the means and standard deviations for the complier and resister groups alongside Mann Whitney U statistics and effect sizes across the following three variables that were controlled for: symptomology at interview (BPRS interview), symptomology at the time of current admission (BPRS admission) and psychopathic traits (LSRP). There were no significant differences between the two groups on these variables indicating that compliance to command hallucinations was not influenced by levels of symptomology or psychopathic traits.

Table III: Independent variables and variables controlled for; group means, standard deviations, Mann Whitney U tests and effect sizes.

	Group means and SD's		Statistics Mann Whitney U and effect size (r)			
	Compliers (n=21)	Resisters (n=11)	u	Z	p	r
BPRS (interview)	32.9 (7.27)	30.27 (7.5)	88.5	-1.08	.28	-0.19
BPRS (admission) ^a	38 (10.56)	41.89 (15.81)	79	-.519	.6	0.1
LSRP	58.76 (11.98)	60.09 (6.86)	112.5	-.119	0.91	-0.02
VPDS	25.76 (5.87)	18.73 (4.22)	41	-2.97	.003 *	-0.52**
SCS	61.62 (16.72)	63.45 (25.12)	113.5	-.08	.937	-0.01
VRS	61.43 (17.8)	41.45 (23.79)	46.5	-2.74	.006*	-0.48***
CMD ^b	114.20 (25.47)	115.45 (17.04)	109.5	-.021	.98	-0.003

^a For BPRS admission n=20 for compliers, n=9 for resisters

^b For CMD n=20 for compliers, n=11 for resisters

* p<0.0125

** Large effect size (Cohen, 1992)

*** Medium to large effect size (Cohen, 1992)

Table III also displays means and standard deviations for the complier and resister groups alongside Mann Whitney U statistics across the four independent variables: the

perceived power of the voice (VPDS), perceptions of social rank in relation to others (SCS), perceptions of social rank in relation to the voice (VRS) and moral disengagement (CMD). A Bonferroni correction was completed to allow for multiple tests, the alpha level was set at 0.0125 (i.e.0.05/4). Two of these four variables were significantly different between the groups. As hypothesised compliers perceived the voice to be significantly more powerful than those who resisted complying. This also had a large effect size (Cohen, 1992). Additionally as predicted compliers perceived the voice to be of a higher social rank than themselves, in comparison to resisters. This also had a moderate to large effect size (Cohen, 1992). A Spearmans correlation was performed to explore whether these two variables (VPDS and VRS) were measuring different constructs. There was a small but significant correlation between the two variables ($r_s=.366$, $p=.04$) indicating a small degree of overlap in the concepts but that these concepts were also independent.

A Spearmans correlation was also performed to explore whether the CMD questionnaire was measuring a different construct to psychopathic traits (LSRP). A significant positive correlation was found ($r_s=.589$, $p>0.001$) indicating a moderate degree of overlap.

Discussion

This study examined compliance to harm-other command hallucinations with a male forensic population. Reported rates of compliance to such commands were higher (65.6 percent) in this study than the median rate (31 percent) that Shawyer et al. (2003) found in their review of seven studies. This was as expected since previous research in forensic settings has reported higher rates of compliance (Rogers et al., 1990).

This study aimed to explore four factors that might affect compliance with harm-other command hallucinations. The results were consistent with two of the hypotheses. Firstly individuals who reported complying with harm-other command hallucinations perceived the commanding voice as more powerful than individuals who reported not complying with such commands. Secondly individuals who complied with commands also perceived the voice to be of a higher social rank (i.e. superior) than themselves in comparison to individuals who resisted complying with commands.

There were no differences between the two groups on perceptions of social rank in relation to others and on moral disengagement. These results were not consistent with the hypotheses.

With regards to the perceived power of the voice the results of this study lend support to previous research (Beck-Sander et al., 1997; Birchwood & Chadwick, 1997) and replicate the findings of Fox et al. (2004). The results indicate that beliefs about the power of the voice influence compliance with harm-other command hallucinations. This is consistent with a cognitive approach to command hallucinations; that it is the appraisal of the hallucination (rather than the hallucination itself) that gives rise to beliefs about the voice and also to behavioural responses (Birchwood & Trower, 2006), such as compliance with a command.

It was hypothesised that a perception of the commanding voice as powerful might inhibit peoples' strong emotional responses against harming others (Fox et al., 2004). This hypothesis can only be a partial explanation with a forensic population as the majority of participants in this study, including those who resisted complying with

commands, had harmed another. The relationship between the perceived power of the voice and compliance to commands might be altered by beliefs about the consequences of disobedience (Milgram, 1974) and perceptions of control over the voices. Both of these concepts have been found to affect compliance to command hallucinations (Beck-Sander et al., 1997). If the voice is perceived as a powerful and potentially authoritative figure an individual might hold strong beliefs about the consequences of disobedience. Additionally a perception of a voice as powerful has also been associated with a subjective lack of control over the voice and feelings of powerlessness and helplessness (Birchwood & Chadwick, 1997). These feelings and perceptions associated with the power of the voice might, in part, explain the finding that participants who perceived the voice as powerful were more likely to have complied with a command.

The finding that individuals' who perceive the voice to be of a higher social rank than themselves (i.e. superior) have higher rates of compliance to harm-other command hallucinations is a new area of research. It supports previous hypotheses (Braham et al., 2004; Byrne et al., 2006) and emphasises the importance of social rank theory (Gilbert, 1992) in understanding compliance to harm-other command hallucinations. Social rank theory has previously been applied to the relationship between a voice hearer and a dominant voice, the voice is often appraised as being superior to the self (Birchwood et al., 2000) but has not specifically been applied to command hallucinations. Social rank theory proposes that when individuals perceive themselves to be inferior they escape, submit or comply with the superior other (Gilbert, 1992). The findings of this study suggest that this theory is applicable to command hallucinations; if an individual perceives the voice to be superior to the self they are more likely to comply with this superior other. This is thought to be a self-protective

and defensive response (Birchwood et al., 2000) to de-escalate potential threat and reduce aggression directed at the self (Byrne et al., 2006).

Early experiences of agonic dominant-subordinate relationships wherein the leader (dominant position) is hostile and uses power, punishment and control to dominate the follower (subordinate position) might sensitise the individual in the subordinate position to interpreting future relationships in similar ways (Byrne et al., 2006). Such experiences might also lead the individual in the subordinate position to see the self as vulnerable and consequently, the need to defend the self from the dominant other (Birchwood et al., 2004). Such schemas of agonic dominant-subordinate relationships might develop through earlier experiences and then be reactivated by the command hallucination (Byrne et al., 2006). The development of this schema in earlier life, if reactivated by the commanding voice, might explain why some individuals perceive the commanding voice as dominant, themselves as subordinate and consequently perceive the need to comply with the dominant other (Byrne et al., 2006).

The significant findings of this study (the perceived power of the voice and the perceived social rank of the voice in relation to the self) may be understood in terms of an individual's relationship with the commanding voice. The findings contribute to previous research which has emphasised the importance of examining the relationship between the voice hearer and the voice when exploring compliance to command hallucinations (Barrowcliff & Haddock, 2006). The findings are also congruent with cognitive approaches (Byrne et al., 2006) which imply that it is the appraisal of the hallucination (e.g. appraisals of the voices social rank or power) that influences and determines behavioural responses.

Not supporting the hypotheses there were no differences between the two groups on a measure of an individual's social rank in relation to others. This is not consistent with previous research (Fox et al., 2004). It was predicted that individuals who reported compliance with harm-other command hallucinations would have higher perceptions of their social rank status in comparison to individuals who reported not complying with such commands. Participants in Fox et al.'s (2004) study were from both a forensic and non-forensic population. All the participants in this study were from a forensic population and this might, in part, explain the failure to replicate the findings of Fox et al. (2004). Individuals with a high level of aggression have been found to have a high perception of their social rank. The function of a high level of aggression is thought to be to prevent attacks on and to maintain a status of superiority (Morrison & Gilbert, 2001). As all the individuals in this study were from a forensic population they might potentially have higher levels of aggression and perceive their social rank to be higher than non-forensic populations. Consequently the differences between compliers to and resisters of harm-other command hallucinations, in a forensic population, might not be distinguishable in relation to their perceived social rank. This study employed a different measure of social rank to the study by Fox et al. (2004) which might attribute to the different findings. Due to the use of different measures the means from this study and Fox et al.'s (2004) study cannot be directly compared to examine whether participants in this study had a higher perception of their social rank.

Also against predictions there were no differences between the two groups on moral disengagement. This was a new area of research and it was hypothesised that individuals who complied with harm-other command hallucinations would have a higher level of moral disengagement. Moral disengagement (Bandura, 1986) is a term used to describe how an individual is able to disengage from moral self-sanctions that

regulate their behaviour and has been found to play a role in reprehensible conduct such as delinquent behaviour (Mulford, 2004). It was considered that moral disengagement might influence compliance with morally and socially unacceptable command hallucinations through several of the mechanisms that Bandura (1986) proposed, for example displacement of responsibility and dehumanising the victim. As no differences were found between the two groups on moral disengagement it indicates either that it does not influence compliance to harm-other command hallucinations or that the weaknesses of this study led to no effect been found.

A further reason could be, as in perceptions of social rank (in relation to others), that levels of moral disengagement could be high within a forensic population in general. Consequently it might not be a factor that needs consideration when exploring compliance to morally or socially unacceptable commands within this population. It might be more relevant to non-forensic samples. The means in this study (compliers, 114.2; resisters, 115.45) were much higher than the means found for male students (80.4) in the study by Caprara and Capanna (in press) thus supporting this hypothesis. The beliefs that an individual holds about the commanding voice might be much more important than the capacity for an individual to disengage from their moral self-sanctions with this population.

The CMD scale (Caprara & Capanna, in press) was designed to assess moral disengagement in everyday transactions, such as driving too fast and environmental deterioration. This study was exploring compliance to harm-other command hallucinations. The validity of the CMD scale in assessing levels of disengagement from our moral self-sanctions of hurting others is unclear. The CMD scale (Caprara & Capanna, in press) was generated from Bandura's (1986) eight mechanisms which

should be relevant to the majority of reprehensible conduct (including compliance to harm-other command hallucinations). However the scale might not have assessed levels of moral disengagement relevant to harming others. The CMD was moderately correlated with the measure of psychopathic personality traits (LSRP) hence it might have been, to some extent in this sample, measuring psychopathic traits rather than moral disengagement.

Another variable to take into consideration is the frequency that participants heard both voices and command hallucinations. No statistical analyses were completed to compare the two groups on these variables due to the small number of participants in each category. However it appears that individuals who complied with commands heard both voices and command hallucinations more frequently in their lifetime. It could be that individuals complied with command hallucinations because they experienced proportionally more commands. This is particularly relevant considering the lifetime ever timescale that was employed in this study. To be categorised as a complier individuals needed to only have complied with one command. Potentially hearing more commands could lead to an increased likelihood of complying with one.

Methodological considerations

This study aimed to examine compliance with harm-other command hallucinations and was mindful of criticisms of previous research in this area, such as participants being recruited from both forensic and non-forensic settings, including both males and females in the study and examining different types of commands together (i.e. harm-other, harm-self and benign), (Barrowcliff & Haddock, 2006; Rudnick, 1999). Thus

this study examined one type of command hallucination (harm-others), participants were all males and from forensic services.

One of the main limitations of this study was the small sample size, specifically the number of participants who had never complied with a harm-other command hallucination. This reduced the ability of this study to detect effects. The majority of research in this area has small sample sizes (Braham et al., 2004) due to difficulties with recruitment. The difficulties with recruiting participants who have resisted complying with command hallucinations has been documented in previous research (Fox et al., 2004; McNeil et al., 2000) and was potentially exacerbated by recruitment taking place in solely forensic services. Another difficulty with recruiting patients with command hallucinations is that clinical teams are often unaware that patients are experiencing such symptoms (Braham et al., 2004; Rogers et al., 1990) therefore they are underreported. This could have affected the number of patients who were identified as being potentially eligible to take part in this study. Only approximately 50 percent of participants approached about taking part in this study agreed. This low response rate reduces the external validity of the findings, the sample might not be representative of the population that was examined. The generalisability of the findings of this study outside a forensic population are also limited and provide little information about other populations, due to differences. For example, of perceptions of social rank in relation to others in non-forensic and forensic populations. A retrospective design was employed in this study consequently reports were subject to recall bias. As discussed earlier the CMD questionnaire might not have been the most appropriate questionnaire to measure moral disengagement with this population.

Another limitation to consider is the dichotomy of compliers and resisters used in this study. To be categorised as a complier the individual needed to have only complied with one command. If an individual had complied with only one command in their lifetime different factors might be involved in comparison to individuals who had complied with several commands. For example levels of symptomology, stress or life events have been relatively more important.

Clinical implications and suggestions for future research

The findings of this study support cognitive models of command hallucinations (Byrne et al., 2006) and emphasise the importance of examining the relationship an individual has with the commanding voice in assessment, formulation and interventions. The importance of examining this relationship is stressed as the findings imply that within a forensic population a high proportion of individuals' who report experiencing harm-other command hallucinations have acted on a command at some point. The findings of this study endorse the need of CBT for harm-other command hallucinations to explore and if appropriate challenge individuals' beliefs about the commanding voice's perceived relative power and social rank. Reviewing the beliefs an individual holds about the commanding voice and completing behavioural experiments to test out the consequences of not complying with commands might be useful. Additionally the use of cognitive behavioural coping strategies might reduce the perceived power and social rank of the commanding voice by increasing an individual's sense of control over the commanding voice. Reducing the relative perceived power and social rank of the commanding voice could lead to a reduction in both the distress an individual experiences and also the likelihood of compliance with the commanding voice.

The findings also imply that compliance to commands might be influenced by slightly different factors within a forensic and non-forensic population. Perhaps with a forensic population external factors (e.g. perceived social rank in relation to others and moral disengagement) are less important and the emphasis should be on appraisals of the command hallucination.

Previous research has found that knowing the identity of the voice and believing the voice to be real affects compliance to commands (Barrowcliff & Haddock, 2006). It would be interesting to examine the relationship between appraisals of the power/social rank of the voice and knowing the identity of the voice/beliefs that the voice is real. It would also be interesting to examine the relationship between the perceived power of the voice and the perceived consequences of disobedience. Future research could also explore whether individuals' who comply with harm-other command hallucinations have earlier experiences of agonic dominant-subordinate relationships in comparison to those who do not comply. Moral disengagement did not appear to influence compliance with harm-other command hallucinations within a forensic population. It would be interesting for future research to examine the role of moral disengagement on compliance to commands in a non-forensic population.

Conclusions

To conclude this study examined compliance to harm-other command hallucinations with a male forensic population. Two of the four hypotheses were supported. Participants who had complied with a harm-other command hallucination perceived the commanding voice to be more powerful than themselves and also to be of a higher

social rank than themselves in comparison to those who had resisted complying with harm-other command hallucinations. This study failed to replicate the findings of Fox et al. (2004) in that compliance to harm-other command hallucinations is mediated by an individual's perceived social rank in relation to others. This might be due to the differences in measurement of social rank between the two studies or that this factor does not mediate compliance to command hallucinations with a forensic population. The two groups did not differ on moral disengagement. This could be attributed to moral disengagement not mediating compliance to commands within a forensic population or weaknesses of this study leading to a failure to find an effect. Implications for clinical practice and future research have been considered.

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Part 3: Critical appraisal

Introduction

This paper gives me the opportunity to reflect upon aspects of the research process. The following areas have been focussed on: generating ideas and designing the research; the recruitment procedure; the response rate; the interviews; awareness of risks and methodological considerations of the current study.

Generating ideas and designing the research

Prior to clinical psychology training I worked as a research assistant at an early intervention psychosis team. I became very interested in psychosis and particularly in the relationship an individual has with their voice. While preparing for clinical psychology training interviews I read more widely about the topic. I was inspired by a paper examining the efficacy of cognitive behavioural therapy (CBT) for command hallucinations (Trower et al., 2004). This paper explored the effects of CBT on participants' degree of conviction in the power and superiority of the voice and also applied social rank theory (Gilbert, 1992) to command hallucinations.

Whilst on a long-term needs placement I worked with individuals who heard voices, some in the form of command hallucinations thus enhancing my interest in this area. With this in mind for my research I decided that I wanted to explore aspects of the relationship an individual has with their voice, with regards to compliance to command hallucinations. The literature in this area is relatively small, especially with regards to research studies conducted in the United Kingdom (Braham, Trower & Birchwood, 2004). Recent reviews have found the literature inconsistent (Barrowcliff

& Haddock, 2006; Braham et al., 2004), as I did I when examining the methodology, mediating factors and the findings.

One of these reviews (Barrowcliff & Haddock, 2006) was very informative and helpful to me when I was generating ideas. One major criticism of research in this area was the failure of the majority of studies to separate different categories of commands, such as harm-self and harm-other commands. Consequently I wanted to focus on one type of command hallucination, this led me to focus on harm-other command hallucinations. Previous research has found higher rates of such commands within a forensic population (Fox, Gray & Lewis, 2004). Thus, it seemed appropriate to recruit from a forensic service. With the type of command and population in place it became easier to focus on which mediating factors that I wanted to explore. I decided to build on the findings of Fox et al. (2004) by examining the role of the perceived power of the voice and individuals perception of their social rank in relation to others, specifically with a male forensic population. The perceived social rank of the voice has been theoretically linked to compliance (Birchwood, Meaden, Trower, Gilbert & Plaistow, 2000) but had not previously been researched. This factor fitted nicely with perceptions of the voice's relative social rank as they both apply social rank theory (Gilbert, 1992) to command hallucinations. The idea of moral disengagement (Bandura, 1986) was suggested to me by a supervisor. I was excited about the opportunity of applying a novel area to command hallucinations. Through further reading on the theoretical underpinnings of moral disengagement it became apparent that some of the mechanisms might be very relevant to compliance to harm-other commands.

The review of compliance to command hallucinations (Barrowcliff & Haddock, 2006) was also helpful to me when thinking about methodological issues in designing the study. They listed the main methodological weaknesses of previous studies such as participants being recruited from both forensic and non-forensic settings, including both males and females in the study, failures to report categories of commands, definitions of compliance, timescales relating to compliance and recruitment procedures. I struggled with how to measure compliance. Currently there are no uniform scales to measure compliance (Braham et al., 2004) and previous research tended to use different unvalidated interviews (Beck-Sander, Birchwood & Chadwick, 1997; Fox et al., 2004; McNiel, Eisner & Binder, 2000). One previous study (Mackinnon, Copolov & Trauer, 2004) used the mental health research institute unusual perceptions schedule (MUPS; Carter, Mackinnon, Howard, Zeegers & Copolov, 1995) which seemed an appropriate scale to use.

I found prior research inconsistent with regards to the timescales in which they examined compliance. I thought that recent timescales would not be appropriate as I was planning on recruiting from inpatient forensic units thus participants would not, on the whole, have been able to recently comply with harm-other commands. Consequently examining whether an individual had ever, in their lifetime, complied with a command hallucination seemed appropriate and I hoped it would make it easier to differentiate between the two groups. I thought that individuals who had never complied with a command might be significantly different to individuals who had complied with a command, even if just the once, on the factors that I was examining. As a consequence of using this timescale an individual could have acted on a command many years ago. Therefore one risk was that the participants could experience difficulty accurately remembering their perceptions of the commanding

voice. Hence, a memory scale was included to provide some information on the participants capacity to recall distant information.

Recruitment procedure

At the outset I had hoped that I would recruit enough participants for this study to meet statistical power from the North London Forensic Service (NLFS). There are approximately 145 male patients in this service. Previous research indicated that more than 50 percent of patients who experience auditory hallucinations hear some of them in the forms of commands (Shawyer, Mackinnon, Farhall, Trauer & Copolov, 2003). Thus, I expected to get close to the numbers needed for statistical power.

Initially I sent an email to all the psychiatrists and psychologists working within the appropriate wards. This led to only three possible patients being identified. I think that this poor response could be due to the NLFS being a large service where the psychiatrists and psychologists are under time pressures. In addition I was looking for something quite specific. I think that my recruitment problems were exacerbated by not being on placement at this service and consequently none of the psychiatrists/psychologists knew me. It might also reflect that patients experiencing command hallucinations have been found to be defensive about their symptoms and try to keep them hidden from clinical staff (Rogers, Gillis, Turner & Frise-Smith, 1990). As this strategy was unsuccessful I started to examine all the patients in appropriate wards' admission summaries. This was very time consuming but reasonably successful with 29 patients being identified as meeting the inclusion criteria for this study. These patients' consultants were then emailed to gain their consent for me to approach specific patients. This was to ensure there were no risks

involved and to make sure that the research would not interfere with any current treatment plans. By this point (November 2007), it had become clear to me that not enough participants were going to be recruited solely from the NLFS.

Along with my supervisor I started to consider other NHS forensic services within the Greater London area from which I might be able recruit. Psychologists within the services were approached with an outline of the study. Several of these services did not think it would be feasible for me to recruit participants from the service due to units being moved, other research projects underway at the services and obstacles with getting research and development approval.

Once a psychologist agreed for the research to take place at their service, recruitment could not start immediately and in some services it was several months before I began recruiting. Despite having all site approval from the National research Ethics Service (National Research Ethics Service, no date) some NHS trusts needed to undertake their own ethical approval. Additionally honorary contracts were needed for each trust, as was a CRB check. This took between ten weeks and five months. In hindsight I would have approached other services much earlier as these delays led to concerns about whether I was going to recruit enough participants in time. Once I started to recruit from one in-patient unit within a new NHS trust I found it very useful to speak to staff about other forensic services within that trust. These other services could then be approached and as I had already received my honorary contract and CRB check I could start to recruit from these services quicker.

Due to the fact that it seemed likely that I was going to be unable to recruit a sufficient number of participants for my research within the NHS I decided also to approach

private forensic services. I contacted either a psychologist or psychiatrist within the service. Some private services needed again to do their own ethical approval but on the whole it was much quicker gaining access to these services. I would definitely recommend recruiting participants from private forensic services to other trainees attempting to recruit from this population.

As mentioned in the method section of the empirical paper in some services eligible patients were identified as being suitable for the research by either the psychologist or psychiatrist contacted. The advantage of this was that it was quicker than looking through patient files. The disadvantage of this strategy was that some patients who might have been suitable were not identified since many patients do not openly talk about their command hallucinations (Rogers et al., 1990) or because their command hallucinations were not experienced in recent years. Examining patient files for evidence of command hallucinations was more effective in identifying suitable participants but very time-consuming.

Response rate

Only approximately 50 percent of patients approached agreed to take part. The low response rate led to recruitment being slower than anticipated, reducing the power of the study and also methodological limitations. Individuals who chose not to take part might be a different population to individuals who agreed. A response rate of 70 percent or above has been identified as necessary to be representative of the target population (Patel, Doku & Tennakoon, 2003). Thus, the low response rate reduces the external validity of the findings.

Previous research also reported difficulties recruiting patients who experience command hallucinations (Braham et al., 2004; Fox et al., 2004; McNeil et al., 2000). As a consequence sample sizes of research in this area are often small. I think this was exacerbated, in this study, by the inclusion criteria being quite specific. I recruited from only a forensic population, only males and specifically harm-other command hallucinations. This was intended to make the research as methodologically rigorous as possible. However it led to difficulties recruiting enough participants and consequently resulted in a small sample size. Hence it seems that if one is completing research within a specific time frame with a difficult to engage population you are left with a dilemma: either to be less specific in your inclusion criteria and have potentially more participants or hold to specific criteria and risk having a small sample size.

It has been suggested that individuals who experience psychosis are more difficult to engage (Morrison, 1998). Whilst working with individuals with psychotic disorders the engagement period can be long and at a slower pace in comparison to patients with emotional disorders. For example while working therapeutically with individuals with a diagnosis of schizophrenia it would be rare that I would ask directly and in detail about their most distressing symptoms in the initial session. In this research project it was not possible to spend much time building a rapport with participants in the manner done in therapeutic work. Through discussion with me before the interview and through the information sheet I hope that participants had a good understanding of what to expect. Despite the low response rate I was impressed with the number of individuals who agreed and were willing to open up to a stranger about experiences and symptoms of a distressing nature. Command hallucinations can be an extremely

distressing symptom and it is understandable that a high proportion of individuals did not want to share this experience with someone they did not know.

At one inpatient ward I attended the ward round, in which all patients were present. At this ward a high proportion of individuals agreed to take part in the study. This might have been due to the patients' having more trust in me and seeing me as part of the clinical team. Alternatively and something to be mindful of in the future is that the patients' might have felt coerced into agreeing to participate as the consultant psychiatrist explained the research to them in the ward round. I believe that if I was on placement in one of these settings recruitment would it have been easier, firstly because I would have known which patients might be eligible and secondly because the patients might have felt more comfortable with me and trusted me more. On the other hand, some patients might have been concerned with confidentiality if I had been part of the clinical team.

The individuals who agreed to participate in the research might have been different to those who did not. Consequently this study could potentially be criticised on the basis of a non-response bias (Patel et al., 2003). Perhaps non-responders were different in terms of levels of symptomology such as: suspiciousness or paranoia; their level of insight; how distressing or powerful they found the command hallucinations. One potential solution to have overcome this difficulty would have been to record demographics and other characteristics of the non-responders. In hindsight it would have been useful to do this, especially because of the low response rate. However, I am unsure about the realism of recording the demographics of non-responders due to time constraints. Nonetheless, it would have increased the external validity of the findings if the non-responders were found to be similar in respect to the responders.

There were some individuals whose clinical notes indicated that they had a history of command hallucinations. However, when approached about the research they denied such experiences. This might have been because they did not want to talk to me, they never had experienced command hallucinations or because of a lack of insight. To participate in the research an individual must have had some insight into their command hallucinations. A lack of insight or denial of symptoms makes recruitment in this area more difficult. Symptoms of psychosis could also have contributed to the low response rate. For example, a lack of motivation or high levels of suspiciousness might have resulted in some of the target population declining to participate.

Interviews

I found completing the interviews very interesting. I was surprised by the number of participants who could easily identify the commanding voice. The identity of the commanding voice varied from a family member to a spiritual being. The majority of participants appeared to be able to think about the relative power/social rank of the voice with apparent ease. Some participants were extremely interested in the research and were forthright in asking questions and prompting discussions. Naturally there were other participants who only responded to questions that I asked.

Prior to starting recruitment I was concerned about whether participants would find the interviews difficult especially if their command hallucinations were very distressing for them. At the end of the interview I explored how the participant had found the interview. The majority of participants did not report any adverse effects. I was mindful that any consequences of the interview might not have arisen until after it

had finished and I was no longer at the service. Thus, I cannot say with certainty that participants' did not find the interview difficult. One participant did find the interview difficult as a voice was commanding him to not talk to me. He was clearly finding the interview very distressing and we decided it was best to stop. After further discussions we informed his primary nurse.

Risk

As I recruited participants from forensic services it was important for me to hold in mind levels of risk. In all the services prior to approaching a participant I discussed their level of risk with a staff member. I felt isolated at the majority of services as I was not there on placement and did not know the staff or the patients. As a consequence of feeling quite isolated it was a priority for me to make sure that I familiarised myself with security, such as discussing the patients level of risk and making sure I had access to alarms. I never felt unsafe with a participant, this might be a reflection of the participants I interviewed or of my own assumptions. One participant was sexually inappropriate with me and this led to the interview being terminated. This inappropriate behaviour was reported to ward staff.

As I had never been on placement or worked within a forensic setting recruiting from these services was a new experience to me. I am familiar with low secure non-forensic units from several placements but these have also been on mixed sex wards. Initially I did find going to unfamiliar male only wards slightly intimidating but this quickly became easier and I felt unthreatened. Prior to meeting with a participant I had often read their notes or talked to staff so was aware of their index offence. I was unsure what impact knowing the index offence would have on me when I met a participant. I

found that I rarely thought of a participant's index offence and was more focussed on their experience and perceptions.

Methodological considerations

The design of this study addressed some of the criticisms of previous research by examining compliance with a male only forensic population. Compliance to one type of command was explored and the definition I had of compliance is clearly outlined as is the recruitment process. I also attempted to use only standardised measures.

One of the main limitations of this study as discussed previously was the small sample size of this study. This is a likely consequence of the population been examined as discussed above, the specific inclusion criteria and the limited time scale. The generalisability of the findings is limited due to the small sample size, the low response rate and recruiting from male only forensic settings. As with the majority of research in this area this study employed a retrospective design and is thus open to recall bias. Retrospective questions are answered with hindsight (Janson, 1996). For example, individuals might have perceived the voice to be powerful or of a higher social rank than themselves due to them having complied with the voice rather than complying with the voice because it was perceived as powerful or superior. Individuals often adjust recollections so that they preserve a positive self view (Janson, 1996). Participants might have preserved positive views of themselves by attributing their behaviour to the command when in reality when they harmed another they were not actually acting on a command hallucination. Cognitive impairments are common in individuals with a diagnosis of schizophrenia (Elvevåg & Goldberg, 2000) which might have led to participants' memories being less accurate.

As considered in the discussion section of paper 2 the CMD questionnaire (Caprara & Capanna, in press) might not have been the most appropriate questionnaire to use in this study. When designing this study I did not find any other questionnaires to measure moral disengagement with an adult population. There are questionnaires to measure moral disengagement in children (Bandura, Barbaranelli, Caprara & Pastorelli, 1996) and potentially I could have applied one of these questionnaires to adults but that raises validity issues. Additionally the questions in the CMD questionnaire along with the psychopathy scale (Levenson, Kiehl & Fitzpatrick, 1995) were about levels of agreement with morally and socially undesirable behaviour or situations. Individuals often underreport deviant behaviour or opinions (Janson, 1996).

Another potential weakness of this study is that I was not blind to the hypotheses or to whether an individual had complied or resisted with a command hallucination. If I was not aware of this prior to the interview I found it out early on in the interview. I could have therefore influenced participants' answers in subtle ways that I was unaware of.

Overall reflections

Overall I enjoyed the research process. I found generating ideas very interesting as with designing the research. I found that meeting and talking with the participants enhanced my understanding and interest in this area. However, recruitment was very difficult and at times stressful. As a consequence of the recruitment difficulties I attended quite a few forensic services. It was interesting to see how different teams operate and different dynamics between teams. I also gained a good understanding of the challenges of conducting research within an NHS setting.

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Appendices

Appendix A: Participant information sheet

INFORMATION SHEET

Investigation into voices that command individuals to do something

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the study?

This research study is looking at what factors influence whether an individual does or does not do what a voice commands them to. Previous research has suggested that some different factors, such as the relationship between the individual and the voice they hear or how an individual perceives themselves compared to others might influence whether they do as the voice says or not. This research is hoping to increase understanding in this area, which may, in the future, help reduce the distress that can, at times, be caused by hearing voices that command you to do something.

Why have I been chosen?

Individuals who are at Camlet Lodge, are male and who currently hear or have heard voices in the past are being invited to take part in this research. We are hoping to talk to 48 people altogether and to complete the study in approximately ten months.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. If you decide to take part you will also be allowing us to read your medical notes, which will be kept strictly confidential. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What will happen to me if I take part?

You will be asked to take part in an interview which would last approximately an hour and a half. The interview can be done in one session, or if you prefer it can be split over two sessions. The interview will take place in a private room at Camlet Lodge.

In the interview you will be asked questions about voices that you have heard. You will also be asked questions about how you perceive yourself compared to other people and questions about what problems you have had and may still have.

What are the possible risks of taking part?

We consider there to be minimal disadvantages e.g. the inconvenience of attending the interview session. However, the sessions will be arranged so that they cause the least disruption and inconvenience to you.

Some individuals may find it difficult or distressing talking in detail about hearing voices or may worry that it will increase the voices they hear.

It is possible that some topics covered in the interview may be upsetting. If you do feel upset you must let the researcher/interviewer know immediately. You should let the researcher know whether you wish to move on to another subject or terminate the session altogether. There are no right or wrong answers to the questions and it is important for you to understand that you are not required to discuss anything that you do not want to and you should discuss only the things which you feel are relevant.

What are the possible benefits of taking part?

We cannot promise the study will help you directly however, some individuals may find it helpful to talk about their voices and experiences. The information from this study may help us, in the future, to improve psychological therapy for people who hear voices.

What if something goes wrong?

If you have any concerns or wish to complain about any aspect of the way you have been approached or treated as part of this study, you should initially contact the researchers who will do their best to answer your questions. Their contact details are provided at the end of this information sheet. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from Camlet Lodge / Barnet, Enfield and Haringey Mental Health Trust. You can also contact the Research Governance Sponsor of this study, University College London (UCL). Please write to Joint UCLH/UCL Biomedical Research Unit, R&D Directorate, Rosenheim Wing, Ground Floor, 25 Grafton Way, London WC1E 5DB quoting reference BRD/07/078.

Harm:

We consider this study to be low-risk and every care will be taken to ensure your safety during the study. However, UCL has indemnity (insurance) arrangements in place for non-negligent harm, in the unlikely event that something does go wrong and you are harmed as a result of taking part in the research study.

In the event that something does go wrong and you are harmed during the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against the Trust but you may have to pay your legal costs. The normal National Health Service complaints mechanisms will still be available to you

Will my taking part in this study be kept confidential?

Yes. If you take part in the study, with your consent parts of your medical records that are relevant to this study will be looked at by the named researchers organising the research. Study information may also be looked at by authorised representatives from University College London (UCL) to check that the study is being carried out correctly. Any information about you which leaves the Camlet Lodge will have your name and other personal details removed so that you cannot be recognised.

All information about you will be kept strictly confidential, but if anything you say suggests that someone might be in danger, a senior member of staff will be told straight away. Professional standards of confidentiality will be adhered to and the handling, processing, storage and destruction of study data will be conducted in accordance with the Data Protection Act (1998).

What will happen to the results of the research study?

The results of this study will be published in a journal, and a copy of the report will also be given to staff in the unit. Anybody who takes part will be sent something in the post explaining what we found. You will not be identified in any report or publication.

Who is organising and funding the research?

This research is organised and funded by University College London.

Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Barnet, Enfield and Haringey Research Ethics Committee. This study has also been reviewed by academic/clinical staff in the Sub-Department of Clinical Health Psychology at University College London.

Contact for Further Information

If you want to know anything else, please contact Nicky Reynolds, Trainee Clinical Psychologist at the Sub-Department of Clinical Health Psychology, University College London, Gower Street, London, WC1E 6BT. Tel: (

Educational Supervisor:

Dr Peter Scragg

Sub- Department of Clinical Health Psychology

1-19 Torrington place

London WC1E 6BT

Field Supervisor:

Dr Karen Townend

North London Forensic Service

Camlet Lodge

Chase Farm Hospital

The Ridgeway

Middlesex EN2 8JL

If you decide to take part you will be given a copy of this information sheet and a signed consent form to keep.

Thank you for reading this information sheet

Appendix B: Consent form

Centre Number: :
Study Number:
Patient Identification Number for this trial:

CONSENT FORM

Title of Project: Investigation into voices that command individuals to do something

Name of Researcher: Nicola Reynolds
Please initial box

1.I confirm that I have read and understand the information sheet dated 20th April 2007

(version 2) for the above study and have had the opportunity to ask questions.

☐

2.I understand that my participation is voluntary and that I am free to withdraw at any time,

without giving any reason, without my medical care or legal rights being affected.

☐

3.I understand that sections of any of my medical notes may be looked at by the researcher

where it is relevant to my taking part in research. I give permission for these individuals to have access to my records.

☐

4.I understand that some study information may be looked at by responsible individuals

from the sponsor, University College London for the purpose of monitoring and audit – to ensure that the study is being conducted properly. I give permission for these individuals to have access to relevant study data.

☐

5.I agree to take part in the above study.

☐

Name of Patient

Date

Signature

Name of Person taking consent
(if different from researcher)

Date

Signature

Researcher

Date

Signature

Appendix C: Interview schedule

Command Hallucinations

Researcher: Nicola Reynolds

Participant Number:

Group: R C

Demographics

1. Date of Birth:

2. Age:

3. Ethnicity:

White:	
British	1
Irish	2
European	3
Other	4
Mixed:	
White and Black Caribbean	5
White and Black African	6
White and Asian	7
Other Mixed background	8
Asian or Asian British:	
Indian	9
Pakistani	10
Bangladeshi	11
Other Asian background	12
Black or Black British:	
Caribbean	13
African	14
Other Black background	15
Chinese or other ethnic group:	16
Chinese	17
Other ethnic group	
Not stated	18

4. Marital Status:

Single	1
In a relationship (not married)	2
Married	3
Separated	4
Divorced	5
Widowed	6
Other	7

5. Date of first contact with mental health services:

6. Date of admission:

7. Ward:

8. Index offence:

9. Diagnosis:
10. Age finished education:
11. Highest education level:

No qualifications	1
GCSE's or equivalent	2
Vocational qualification	3
A Levels or equivalent	4
Degree	5
Postgraduate degree or higher	6
Other	7

12. Employment status prior to hospital:

Unemployed	1
Employed part-time	2
Employed full-time	3
Voluntary work	4
Not working because of disability	5
Other	6

MUPS

1. Have you ever heard voices/or sounds that you suspect that others don't hear?
or report hearing?

0 1 2 3
Never Rarely Sometimes Often

2. How old were you when anything like this first happened? (i.e. hearing voices or sounds)?

Age _____(years)

3. (a) In your last illness episode in which you heard voices/sounds, overall how long were the voices/sounds with you? (e.g. one week; one month) _____
_____ [Convert to weeks]

(b) During this last episode with the voices/sounds, how **frequently** were the voices/sounds with you?

(i) Rarely (nominate how rarely; e.g. 0-5 times/week)

(ii) Occasionally (nominate how many times a day/week e.g. 6-10 times/week or once a day. [Convert to times per day/week]

(iii) Often (11-20 times/week)[Convert to times per day/week as appropriate]

(iv) Constantly with you

4. (a) Did the voices ever tell you what to do?

0	1	2	3
Never	Rarely	Sometimes	Often

(b) Are you able to resist?

1	0
Yes	No

If 'Yes',

1	2	3	4
Rarely	Sometimes	Often	Always

(iii) What assists you to resist? (please elaborate)

What were the majority of the commands? Harm self/others/benign

Rivermead

Time:

Mr Brain Kelly a security express employee was shot dead on Monday during a bank raid in Brighton. The four-raiders all wore masks and one carries a sawn-off shotgun. Police detectives were sifting through eye witness accounts last night. A police spokesman said 'He was a very brave man. He went for the armed raider and put up a hell of a fight'.

Immediate Recall

Mr Brain / Kelly / a security express employee / was shot dead / on Monday / during a bank raid / in Brighton. / The four-raiders / all wore masks / and one carried / a sawn-off / shotgun. / Police detectives / were sifting through / eye witness accounts / last night. / A police spokesman said / 'He was a very brave man. / He went for / the armed raider / and put up a hell of a fight'.

(65 Words, 21 'ideas')

Raw Score

Each 'idea' recalled word-perfect or using a close synonym=1

Each 'idea' partially recalled, or recalled with approximate synonym=1/2

Profile Score Conversion Table

Profile Score:

Predicted (premorbid) intellectual band	0	1	2	3	4
Below average	0	1-2	3-6	7-10	11-21
Average	0-1	2-5	6-10	11-14	15-21
Above average	0-3	4-7	8-12	13-15	16-21

BPRS

1. Time of interview

1	2	3	4	5	6	7
Not present	Very mild	Mild	Moderate	Moderately severe	Severe	Extremely severe

Somatic concern	N/A	1	2	3	4	5	6	7
Anxiety	N/A	1	2	3	4	5	6	7
Depression	N/A	1	2	3	4	5	6	7
Suicidality	N/A	1	2	3	4	5	6	7
Guilt	N/A	1	2	3	4	5	6	7
Hostility	N/A	1	2	3	4	5	6	7
Elated mood	N/A	1	2	3	4	5	6	7
Grandiosity	N/A	1	2	3	4	5	6	7
Suspiciousness	N/A	1	2	3	4	5	6	7
Hallucinations	N/A	1	2	3	4	5	6	7
Unusual thought content	N/A	1	2	3	4	5	6	7
Bizarre behaviour	N/A	1	2	3	4	5	6	7
Self-neglect	N/A	1	2	3	4	5	6	7
Disorientation	N/A	1	2	3	4	5	6	7
Conceptual disorganisation	N/A	1	2	3	4	5	6	7
Blunted affect	N/A	1	2	3	4	5	6	7
Emotional withdrawal	N/A	1	2	3	4	5	6	7
Motor retardation	N/A	1	2	3	4	5	6	7
Tension	N/A	1	2	3	4	5	6	7
Uncooperativeness	N/A	1	2	3	4	5	6	7
Excitement	N/A	1	2	3	4	5	6	7
Distractibility	N/A	1	2	3	4	5	6	7
Motor hyperactivity	N/A	1	2	3	4	5	6	7
Mannerisms and posturing	N/A	1	2	3	4	5	6	7

2. Time of admission

1	2	3	4	5	6	7
Not present	Very mild	Mild	Moderate	Moderately severe	Severe	Extremely severe

Somatic concern	N/A	1	2	3	4	5	6	7
Anxiety	N/A	1	2	3	4	5	6	7
Depression	N/A	1	2	3	4	5	6	7
Suicidality	N/A	1	2	3	4	5	6	7
Guilt	N/A	1	2	3	4	5	6	7
Hostility	N/A	1	2	3	4	5	6	7
Elated mood	N/A	1	2	3	4	5	6	7
Grandiosity	N/A	1	2	3	4	5	6	7
Suspiciousness	N/A	1	2	3	4	5	6	7
Hallucinations	N/A	1	2	3	4	5	6	7
Unusual thought content	N/A	1	2	3	4	5	6	7
Bizarre behaviour	N/A	1	2	3	4	5	6	7
Self-neglect	N/A	1	2	3	4	5	6	7
Disorientation	N/A	1	2	3	4	5	6	7
Conceptual disorganisation	N/A	1	2	3	4	5	6	7
Blunted affect	N/A	1	2	3	4	5	6	7
Emotional withdrawal	N/A	1	2	3	4	5	6	7
Motor retardation	N/A	1	2	3	4	5	6	7
Tension	N/A	1	2	3	4	5	6	7
Uncooperativeness	N/A	1	2	3	4	5	6	7
Excitement	N/A	1	2	3	4	5	6	7
Distractibility	N/A	1	2	3	4	5	6	7
Motor hyperactivity	N/A	1	2	3	4	5	6	7
Mannerisms and posturing	N/A	1	2	3	4	5	6	7

Voice Power Differential Scale

1 I am much more powerful than my voice	2 I am more powerful than my voice	3 We have about the same amount of power as each other	4 My voice is more powerful than me	5 My voice is much more powerful than me
1 I am much stronger than my voice	2 I am stronger than my voice	3 We are as strong as each other	4 My voice is stronger than me	5 My voice is much more stronger than me
1 I am much more confident than my voice	2 I am more confident than my voice	3 We are as confident as each other	4 My voice is more confident than me	5 My voice is much more confident than me
1 I respect my voice much more than it respects me	2 I respect my voice more than it respects me	3 We respect each other about the same	4 My voice respects me more than I respect it	5 My voice respects me much more than I respect it
1 I am much more able to harm my voice than it is able to harm me	2 I am more able to harm my voice than it is able to harm me	3 We are equally able to harm each other	4 My voice is more able to harm me than I am able to harm it	5 My voice is much more able to harm me than I can harm it
1 I am greatly superior to my voice	2 I am superior to my voice	3 We are equal to each other	4 My voice is superior to me	5 My voice is greatly superior to me
1 I am much more knowledgeable	2 I am more knowledgeable than my voice	3 We have about the same amount of	4 My voice is more knowledgeable	5 My voice is much more knowledgeable

than my voice		knowledge as each other	than me	than me
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Levenson's Self-report Psychopathy Scale

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

1. Success is based on survival of the fittest; I am not concerned about the losers	1	2	3	4
2. My main purpose in life is getting as many goodies as I can	1	2	3	4
3. Making a lot of money is my most important goal	1	2	3	4
4. For me, what's rights is whatever I can get away with	1	2	3	4
5. I enjoy manipulating other people's feelings	1	2	3	4
6. I often admire a really clever scam	1	2	3	4
7. I would be upset if my success came at someone else's expense	1	2	3	4
8. People who are stupid enough to get ripped off usually deserve it	1	2	3	4
9. I tell other people what they want to hear so that they will do what I want them to do	1	2	3	4
10. I feel bad if my words or actions cause someone	1	2	3	4

else to feel emotional pain				
11. Looking out for myself is my top priority	1	2	3	4
12. Cheating is not justified because it is unfair to others	1	2	3	4
13. Even if I were trying to sell something, I wouldn't lie about it	1	2	3	4
14. In today's world, I feel justified in doing anything I can get away with to succeed	1	2	3	4
15. I let others worry about higher values, my main concern is the bottom line	1	2	3	4
16. I make a point of trying not to hurt others in pursuit of my goals	1	2	3	4
17. I quickly lose interest in the tasks I start	1	2	3	4
18. When I get frustrated, I often "let off steam" by blowing my top	1	2	3	4
19. Before I do anything, I carefully consider the possible consequences	1	2	3	4
20. I am often bored	1	2	3	4
21. Most of my problems are due to the fact that other people just don't understand me	1	2	3	4
22. I find myself in the same kinds of trouble, time after time	1	2	3	4
23. I don't plan anything very far in advance	1	2	3	4

Voice Rank Scale

We are now interested in how you compare yourself to your voices.

If you understand the above instructions please proceed. Circle one number on each line according to how you see yourself in relationship to your voices.

- In relationship to my voices I feel:

1.	Inferior	1	2	3	4	5	6	7	8	9	10	Superior
2.	Incompetent	1	2	3	4	5	6	7	8	9	10	More Competent
3.	Unlikeable	1	2	3	4	5	6	7	8	9	10	More likeable
4.	Left out	1	2	3	4	5	6	7	8	9	10	Accepted
5.	Different	1	2	3	4	5	6	7	8	9	10	Same
6.	Untalented	1	2	3	4	5	6	7	8	9	10	More talented
7.	Weaker	1	2	3	4	5	6	7	8	9	10	Stronger
8.	Unconfident	1	2	3	4	5	6	7	8	9	10	More confident
9.	Undesirable	1	2	3	4	5	6	7	8	9	10	More Desirable
10.	Unattractive	1	2	3	4	5	6	7	8	9	10	More attractive
11.	An Outsider	1	2	3	4	5	6	7	8	9	10	An insider

Civic Moral Disengagement Scale

1	2	3	4	5
Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely Agree

1. Using drugs is a way of "expanding the limits of one's consciousness"	1	2	3	4	5
2. When there are no efficient refuse disposal services, there is no sense reproaching citizens who leave trash on the street	1	2	3	4	5
3. Some people are real disasters	1	2	3	4	5
4. To forget to declare a financial error in our favor is not serious, since it is the responsibility of who suffers the error to make checks	1	2	3	4	5
5. There is no reason to fine those who make "graffiti" on walls since others commit much more serious acts of vandalism	1	2	3	4	5
6. When traffic moves quickly, drivers who exceed the speed limit in order to keep up should not be fined	1	2	3	4	5
7. There is no sense for the individual to worry about environmental deterioration since the harmful effects are produced at the collective level	1	2	3	4	5
8. Evading taxes cannot be considered reprehensible considering the squandering of public money	1	2	3	4	5
9. Those who behave brutally can only expect to be treated the same way by others	1	2	3	4	5
10. Thefts in large department stores are irrelevant compared to the stores' earnings	1	2	3	4	5
11. Victims are generally unable to stay out of trouble	1	2	3	4	5
12. Thefts do not damage retail sales very much since insurance covers the losses	1	2	3	4	5

13. Drawing graffiti on walls is the expression of "creative spirit"	1	2	3	4	5
14. There is no sense feeling guilty for damages we have contributed toward producing only in a very small way	1	2	3	4	5
15. Those who refuse to pay fines cannot be condemned given the corruption among policemen	1	2	3	4	5
16. A manager is not culpable if he inflates balance sheet items in order to avoid his company going bankrupt	1	2	3	4	5
17. Fraud in economic transactions is simply a "strategic distortion"	1	2	3	4	5
18. Silencing those who continue to be annoying, even using hard measures, is understandable	1	2	3	4	5
19. Taking "bribes" is not serious since no one is hurt	1	2	3	4	5
20. People cannot be held responsible for crimes they commit on the instigation of others	1	2	3	4	5
21. There is no sense in blaming individuals who evade a rule when everybody else does the same thing	1	2	3	4	5
22. Gambling is a pastime just like any other one	1	2	3	4	5
23. For the advance of science, it is lawful to use humans as "guinea pigs" even in high risk experiments	1	2	3	4	5
24. If people leave their belongings around, it is their fault if someone takes them or robs them	1	2	3	4	5
25. If someone loses control during a brawl, he is not completely responsible for the consequences of his actions	1	2	3	4	5
26. Citizens who dirty the streets should not be severely persecuted since industry produces much more serious pollution	1	2	3	4	5
27. Athletes who take stimulants should not be punished since all their companions behave in the same way	1	2	3	4	5

28. Using force is often inevitable to protect one's own interests	1	2	3	4	5
29. Given the widespread corruption in society, one cannot disapprove of those who pay for favours	1	2	3	4	5
30. In order to keep family cohesion, its members should always be defended, even when they are guilty of serious crimes	1	2	3	4	5
31. Those who behave deplorably deserve a cruel destiny	1	2	3	4	5
32. Whoever does not behave like a human being cannot be treated like one	1	2	3	4	5
33. Destroying old things is a way of convincing the state to provide new facilities	1	2	3	4	5
34. It is not the fault of drivers if they exceed the speed limit since cars are made to go at high speeds	1	2	3	4	5
35. Young people cannot be considered guilty if they smoke a joint since most adults use much stronger drugs	1	2	3	4	5
36. Rivals deserve being humiliated and maltreated	1	2	3	4	5
37. Loyalty involves not denouncing the transgressions committed by one's friends	1	2	3	4	5
38. Employees are never responsible for executing the illegal decisions of their bosses	1	2	3	4	5
39. In order to force some people to work, they have to be treated like beasts of burden	1	2	3	4	5
40. Pornography is basically "cheap" eroticism	1	2	3	4	5

Rivermead

Delayed Recall

Time:

Mr Brain / Kelly / a security express employee / was shot dead / on Monday / during a bank raid / in Brighton. / The four-raiders / all wore masks / and one carried / a sawn-off / shotgun. / Police detectives / were sifting through / eye witness accounts / last night. / A police spokesman said / 'He was a very brave man. / He went for / the armed raider / and put up a hell of a fight'.

(65 Words, 21 'ideas')

Raw Score

Each 'idea' recalled word-perfect or using a close synonym=1

Each 'idea' partially recalled, or recalled with approximate synonym=1/2

Profile Score Conversion Table

Profile Score:

Predicted (premorbid) intellectual band	0	1	2	3	4
Below average	0	1-2	3-6	7-10	11-21
Average	0-1	2-5	6-10	11-14	15-21
Above average	0-3	4-7	8-12	13-15	16-21

Appendix D: NHS ethical approval

Barnet, Enfield & Haringey Local Research Ethics Committee

R&D Dept,
Royal National Orthopaedic Hospital
Brockley Hill
Stanmore
HA7 4LP

05 June 2007

Miss Nicola J Reynolds
Trainee Clinical Psychologist
University College London
Clinical Health Psychology Department
University College London
1-19 Torrington Place
London WC1E

Dear Miss Reynolds

Full title of study:	Compliance with command hallucinations: The role of the power of the voice, social rank and moral disengagement
REC reference number:	07/Q0509/43

The Research Ethics Committee reviewed the above application at the meeting held on 29 May 2007.

Ethical opinion

The Committee had no ethical issues.

The members of the Committee present gave a **favourable ethical opinion** of the above research on the basis described in the application form, protocol and supporting documentation.

Ethical review of research sites

The Committee agreed that all sites in this study should be exempt from site-specific assessment (SSA). There is no need to submit the Site-Specific Information Form to any Research Ethics Committee. The favourable opinion for the study applies to all sites involved in the research.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Application		11 May 2007
Investigator CV		29 April 2007
Protocol	1	13 February 2007
Covering Letter		
Peer Review		01 April 2007
Questionnaire		
Participant Information Sheet	1	
Participant Consent Form	1	
Voice Power differential scale		
Rivermead Memory Behavioural sheet		
Mental Health Research Unusual Perceptions Schedule		
letter from funder		27 February 2007
statement of indemnity arrangements UCL		01 May 2007

R&D approval

You should arrange for the R&D office at all relevant NHS care organisations to be notified that the research will be taking place, and provide a copy of the REC application, the protocol and this letter.

All researchers and research collaborators who will be participating in the research at a NHS site must obtain final approval from the R&D office before commencing any research procedures.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

07/Q0509/43

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Dr. B. Yuksel
Chair

Email:

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*
Standard approval conditions [SL-AC1 for CTIMPs, SL-AC2 for other studies]

Copy to: *University College London*
 [R&D office for NHS care organisation at lead site]

Barnet, Enfield & Haringey Local Research Ethics Committee

Attendance at Committee meeting on 29 May 2007

Dr. B. Yuksel (Chair)
Dr. M. Leighton (Co-Vice Chair)
Ms. B. Tucker (Co-Vice Chair)
Dr. V. Watkin
Professor D. Winter
Dr. H. Makker
Medicine
Ms. J. Rosser
Ms. P. Patel
Mr. M. Keble
Ms. M. Wells

Consultant Paediatrician
GP
Lay Member
Consultant in Old Age Psychiatry
Clinical Psychologist
Consultant in Respiratory

Lay Member
Clinical Pharmacist
Clinical Pharmacist
Midwife